Okha Floating Production Storage and Offloading Facility Operations Environment Plan

Australian Operations

July 2025

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1. INTRODUCTION

1.1 Overview

Woodside Energy Limited (Woodside), as titleholder under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Commonwealth) (referred to as the Environment Regulations), proposes to undertake within Permit Area(s) WA-9-L, WA-11-L, WA-16-L and WA-4-PL:

- routine production of oil and gas from the Cossack, Wanaea, Lambert and Hermes (CWLH) fields
- routine and non-routine operations of the Okha floating production, storage and offloading (FPSO) facility
- routine and non-routine operations of the subsea infrastructure associated with the Okha FPSO facility, including the Wanaea Cossack gas export line (WC GEL)
- routine and non-routine inspection, maintenance, monitoring and repair (IMMR) activities
- routine and non-routine support activities including, but not limited, to support vessel operations and helicopter operations.

These activities will hereafter be collectively referred to as the Petroleum Activity and form the scope of this Environment Plan (EP). A detailed description of the activities is provided in Section 3. This EP has been prepared as part of the requirements under the Environment Regulations, as administered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

1.2 Purpose of the Environment Plan

In accordance with the objectives of the Environment Regulations, the purpose of this EP is to demonstrate that:

- the potential environmental impacts and risks (planned [routine and non-routine] and unplanned) that may result from the Petroleum Activity are identified
- appropriate management controls are implemented to reduce impacts and risks to a level that is ‘as low as reasonably practicable’ (ALARP) and acceptable
- the Petroleum Activity is carried out in a manner consistent with the principles of ecologically sustainable development (ESD) (as defined in Section 3A of the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 [EPBC Act]).

1.3 Environment Plan summary

Table 1-1 summarises the content of this EP, as required by Environment Regulation 35(6).

Table 1-1: Environment Plan summary

EP summary material requirement	Relevant section of this EP containing EP summary material
The location of the activity	Section 3.2
A description of the receiving environment	Section 4
A description of the activity	Section 3
Details of the environmental impacts and risks	Section 6
The control measures for the activity	Section 6
The arrangements for ongoing monitoring of the titleholder’s environmental performance	Section 7
Response arrangements in the oil pollution emergency plan	Appendix G and Appendix H
Consultation already undertaken and plans for ongoing consultation	Section 5 and Appendix F
Details of the titleholder’s nominated liaison person for the activity	Section 1.5.1.2

1.4 Structure of the Environment Plan

The EP has been structured to reflect the process and requirements of the Environment Regulations, as outlined in Table 1-2.

Table 1-2: Environment Plan process phases, applicable Environment Regulations and relevant section of the Environment Plan

Criteria for acceptance	Content requirements/relevant regulations	Elements	Section of EP
Regulation 34(a): Is appropriate for the nature and scale of the activity	Regulation 21: • Environmental assessment Regulation 22: • Implementation strategy for the EP Regulation 24: • Other information in the EP	The principle of 'nature and scale' is applicable throughout the EP	Section 3 Section 6
Regulation 34(b): Demonstrates that the environmental impacts and risks of the activity will be reduced to ALARP Regulation 34(c): Demonstrates that the environmental impacts and risks of the activity will be of an acceptable level	Regulations 21(1) to 21(7): • 21(1) Description of the activity • 21(2) and (3) Description of the environment • 21(4) Requirements • 21(5) and (6) Evaluation of environmental impacts and risks • 21(7) Environmental Performance Outcomes and standards Regulations 24(a) to 24(c): • A statement of the titleholder's corporate environmental policy • A report on all consultations between the titleholder and any relevant person	Set the context (activity and existing environment) Define 'acceptable' (the requirements, the corporate policy, relevant persons) Detail the impacts and risks Evaluate the nature and scale Detail the control measures – ALARP and acceptable	Section 6
Regulation 34(d): Provides for appropriate Environmental Performance Outcomes, environmental performance standards and measurement criteria	Regulation 21(7): • Environmental Performance Outcomes and standards	Environmental performance outcomes (EPOs) Environmental performance standards (EPSs) Measurement criteria (MC)	Section 6
Regulation 34(e): Includes an appropriate implementation strategy and monitoring, recording and reporting arrangements	Regulation 22: • Implementation strategy for the EP	Implementation strategy, including: • environmental management system • performance monitoring • oil pollution emergency plan (OPEP – per Appendix G) and scientific monitoring • ongoing consultation	Section 7

Criteria for acceptance	Content requirements/relevant regulations	Elements	Section of EP
Regulation 34(f): Does not involve the activity or part of the activity, other than arrangements for environmental monitoring or for responding to an emergency, being undertaken in any part of a declared World Heritage property within the meaning of the EPBC Act	Regulations 21(1) to 21(3): • 21(1) Description of the activity • 21(2) Description of the environment • 21(3) Without limiting Regulation 21(2)(b), relevant values and sensitivities may include any of the following: – (a) the world heritage values of a declared World Heritage property within the meaning of the EPBC Act – (b) the national heritage values of a National Heritage place within the meaning of that Act – (c) the ecological character of a declared Ramsar wetland within the meaning of that Act – (d) the presence of a listed threatened species or listed threatened ecological community within the meaning of that Act – (e) the presence of a listed migratory species within the meaning of that Act – (f) any values and sensitivities that exist in, or in relation to, part or all of: ▪ (i) a Commonwealth marine area within the meaning of that Act, or ▪ (ii) Commonwealth land within the meaning of that Act	No activity, or part of the activity, undertaken in any part of a declared World Heritage property	Section 4.8
Regulation 34(g): (i) the titleholder has carried out the consultations required by Regulation 25 (ii) the measures (if any) that the titleholder has adopted, or proposes to adopt, because of the consultations are appropriate	Regulation 25: • Consultation with relevant authorities, persons and organisations, etc. Regulation 24(b): • A report on all consultations between the titleholder and any relevant person	Consultation undertaken when preparing this EP	Section 5
Regulation 34(h): Complies with the Act and the regulations	Regulation 21(4)(a): • Describe the requirements, including legislative requirements, that apply to the activity and are relevant to the environmental management of the activity	All contents of the EP must comply with the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (OPGGS Act) and the Environment Regulations.	Section 1.7 Section 2

Criteria for acceptance	Content requirements/relevant regulations	Elements	Section of EP
	Regulation 23: • Details of the titleholder and liaison person Regulation 24(a): • A statement of the titleholder's corporate environmental policy Regulation 24(c): • Details of all reportable incidents in relation to the proposed activity		

Table 1-3: Relevant decommissioning requirements of the *Offshore Petroleum and Greenhouse Gas Storage Act*

Section number	Relevant requirement	Relevant section of the EP
Section 270(c)(i) and Section 270(c)(ii)	The Joint Authority may consent to the surrender sought by the application only if the registered holder of the permit, lease or licence: • (c) has: – (i) to the satisfaction of NOPSEMA, removed or caused to be removed from the surrender area (defined by subsection (7)) all property brought into the surrender area by any person engaged or concerned in the operations authorised by the permit, lease or licence, or – (ii) made arrangements that are satisfactory to NOPSEMA in relation to that property, and…	Not relevant, decommissioning not proposed under this EP
Section 572(2)	A titleholder must maintain in good condition and repair all structures that are, and all equipment and other property that is: • (a) in the title area, and • (b) used in connection with the operations authorised by the permit, lease, licence or authority	Section 3.7
Section 572(3)	A titleholder must remove from the title area all structures that are, and all equipment and other property that is, neither used nor to be used in connection with the operations: • (a) in the title area, and • (b) used in connection with the operations authorised by the permit, lease, licence or authority	Section 7.3
Section 572(7)	This section has effect subject to: • (a) any other provision of this Act, and • (b) the regulations, and • (c) a direction given by NOPSEMA or the responsible Commonwealth Minister under: – (i) Chapter 3, or – (ii) this Chapter, and • (d) any other law.	Section 7.3

1.5 Description of the titleholder

Woodside Energy Ltd is the titleholder for this activity, on behalf of the joint venture partners detailed in Table 1-4:

Table 1-4: Joint venture participants for relevant petroleum titles and pipeline license

Petroleum Titles / Pipeline License	Joint Venture Participants
WA-9-L, WA-11-L and WA-16-L*	BP Developments Australia Pty Ltd, Chevron Australia Pty Ltd, Woodside Energy (North West Shelf) Pty Ltd, Shell Australia Pty Ltd, Japan Australia LNG (MIMI) Pty Ltd, CNOOC NWS Private Ltd and Jadestone Energy (CWLH) Pty Ltd,
WA-4-PL**	Chevron Australia Pty Ltd, Woodside Energy (North West Shelf) Pty Ltd, Jadestone Energy (CWLH) Pty Ltd

[1] The Titleholders of these Titles are the registered holders of the Titles but have agreed to exercise their rights in the Titles through two separate Joint Ventures (one for Gas activities and one for Oil activities). The Oil Joint Venture Participants are Woodside Energy Ltd, Woodside Energy (North West Shelf) Pty Ltd and Jadestone Energy (CWLH) Pty Ltd and the Gas Joint Venture Participants are Woodside Energy Ltd, Woodside Energy (North West Shelf) Pty Ltd, BP Developments Australia Pty Ltd, Chevron Australia Pty Ltd, Japan Australia LNG (MIMI) Pty Ltd, Shell Australia Pty Ltd and CNOOC NWS Private Limited.

[2] The Titleholders of this pipeline licence are the registered holders of the Titles but have agreed to exercise their rights in the Titles through a Joint Venture. The full list of titleholders registered for the pipeline licence are Woodside Energy Ltd, BP Developments Australia Pty Ltd, Chevron Australia Pty Ltd, Japan Australia LNG (MIMI) Pty Ltd, Woodside Energy (North West Shelf) Pty Ltd, Shell Australia Pty Ltd.

1.5.1 Details of titleholder and nominated liaison person

In accordance with Regulation 23 of the Environment Regulations, details of the titleholder, liaison person and arrangements for notifying about changes are described below.

1.5.1.1 Titleholder

Woodside Energy Ltd

11 Mount Street

Perth, Western Australia

T: 08 9348 4000

ACN: 63 005 482 986

1.5.1.2 Nominated liaison person

Nicolas Wirtz

Corporate Affairs Manager

11 Mount Street

Perth, Western Australia (WA)

Telephone: 08 9348 4000

Email: feedback@woodside.com

1.5.2 Arrangements for notifying change

If the titleholder, titleholder's nominated liaison person, or the contact details for either change, NOPSEMA will be notified in writing within two weeks or as soon as practicable.

1.6 Woodside Management System

The Woodside Management System (WMS) provides a structured framework of documentation to set common expectations governing how all employees and contractors at Woodside will work. Many of the standards presented in Sections 6 and 7 are drawn from the WMS documentation, which comprises these elements:

- Our values and policies: Set the enterprise-wide direction for Woodside by governing our behaviours, actions and business decisions, to align with our legal and other external obligations.
- Expectations: Set essential activities or deliverables required to achieve the objectives of the key business activities and provide the basis for developing processes and procedures.
- Processes and procedures: Processes identify the set of interrelated or interacting activities that transforms inputs into outputs, to systematically achieve a purpose or specific objective. Procedures specify what steps, by whom, and when required to carry out an activity or a process.
- Guidelines: Provide recommended practice and advice on how to perform the steps defined in procedures, together with supporting information and associated tools. Guidelines provide advice on how activities or tasks may be performed, information that may be considered, or how to use tools and systems.

The WMS is organised within a business process hierarchy based on key business activities to ensure the system remains independent of organisation structure, is globally applicable, and is scalable wherever required. These key business activities are grouped into ‘management’, ‘support’ and ‘value stream’ activities. The value stream activities capture, generate and deliver value through the exploration and production lifecycle. The management activities influence all areas of the business, while support activities may influence one or more value stream activities.

1.6.1 Environment and Biodiversity Policy

In accordance with Regulation 24(a) of the Environment Regulations, Woodside’s Environment and Biodiversity Policy is provided in Appendix A of this EP.

Please note that the Environment and Biodiversity Policy is reviewed regularly and is updated as required. The Environment and Biodiversity Policy is made available on our website: https://www.woodside.com/who-we-are/corporate-governance-and-policies. This EP will be implemented in accordance with the current Environment and Biodiversity Policy, as shown on our website.

1.7 Description of relevant requirements

In accordance with Regulation 21(4) of the Environment Regulations, a description of requirements, including legislative requirements, that apply to the activity and are relevant to managing the risks and impacts of the Petroleum Activity are detailed in Appendix B and summarised in the following sections.

1.7.1 *Offshore Petroleum and Greenhouse Gas Storage Act 2006*

The OPGGS Act legislates offshore petroleum activities beyond three nautical miles (NM) of the mainland (and islands) to the outer extent of the Australian Exclusive Economic Zone at 200 NM.

Under the OPGGS Act, the Environment Regulations apply to petroleum activities in Commonwealth waters and are administered by NOPSEMA. The objective of the Environment Regulations is to ensure petroleum activities are performed in a manner:

- consistent with the principles of ESD
- by which the environmental impacts and risks of the activity will be reduced to ALARP
- by which the environmental impacts and risks of the activity will be of an acceptable level.

This EP has been prepared in accordance with the relevant requirements of the OPGGS Act and the Environment Regulations.

1.7.2 *Environment Protection and Biodiversity Conservation Act 1999*

The EPBC Act includes the objective to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places in Australia. These are defined under Part 3 of the EPBC Act as 'matters of national environmental significance' (MNES). The EPBC Act sets a regime which aims to ensure that actions taken are on (or impacting upon) Commonwealth land or waters are consistent with the principles of ESD.

In relation to offshore petroleum activities in Commonwealth waters, the requirements of the EPBC Act are administered by NOPSEMA. The Streamlining Offshore Petroleum Environmental Approvals Program Report (NOPSEMA, 2024) requires any offshore petroleum activities, authorised by the OPGGS Act, to be conducted in accordance with an accepted EP whereby the definition of 'environment' covers all matters protected under Part 3 of the EPBC Act.

The Petroleum Activity is not subject to an existing ministerial statement under the EPBC Act.

1.7.3 Recovery plans and threat abatement plans

Under Section 139(1)(b) of the EPBC Act, the Environment Minister must not act inconsistently with a recovery plan for a listed threatened species or ecological community, nor with a threat abatement plan for a species or community protected under the Act. Similarly, under Section 268 of the EPBC Act:

> *'A Commonwealth agency must not take any action that contravenes a recovery plan or a threat abatement plan.'*

In respect to offshore petroleum activities in Commonwealth waters, these requirements are implemented by NOPSEMA. Specifically:

- NOPSEMA will not accept an EP that proposes activities that will result in unacceptable impacts to a listed threatened species or ecological community.
- NOPSEMA will not accept an EP that is inconsistent with a recovery plan or threat abatement plan for a listed threatened species or ecological community.
- NOPSEMA will have regard to any approved conservation advice in relation to a threatened species or ecological community before accepting an EP.

An assessment of the Petroleum Activity against all relevant recovery plans and threat abatement plans is contained in Section 6.8.

1.7.4 Australian marine parks

Under the EPBC Act, Australian marine parks (AMPs) are recognised for conserving marine habitats and the species that live and rely on these habitats. The Director of National Parks is responsible for managing AMPs (supported by Parks Australia) and is required to publish management plans for them. Under Section 362 of the EPBC Act, other parts of the Commonwealth Government must not perform functions or exercise powers in relation to these parks that are inconsistent with management plans. Therefore, NOPSEMA is required to consider potential impacts from petroleum activities on AMPs.

Specific zones within AMPs have conservation objectives allocated based on the Australian International Union for Conservation of Nature (IUCN) reserve management principles outlined in Schedule 8 of the EPBC Regulations 2000. The principles for each zone determine what activities are acceptable within a protected area under the EPBC Act. The Operational Area does not overlap any AMPs; however, Section 3 describes the AMPs that are overlapped by the environment that may be affected (EMBA) and the relevant zones the Petroleum Activity may interact with.

1.7.5 World Heritage properties

Australian World Heritage properties (WHP) are listed as MNES under the EPBC Act and are required to be assessed accordingly in EPs.

Schedule 5 of the EPBC Act establishes the Australian World Heritage management principles, which are designed to ensure WHPs within Australia are managed in a way that maintains their values. Table 1-5

outlines the principles that are relevant to assessing impacts from the Petroleum Activity on WHPs within the EMBA, which are identified in Section 3. The Operational Area does not overlap any WHPs.

Table 1-5: Relevant management principles under Schedule 5 – Australian World Heritage management principles of the *Environment Protection and Biodiversity Conservation Act*

Number	Principle	Relevant section of the EP
3	**Environmental impact assessment and approval** 3.01 This principle applies to the assessment of an action that is likely to have a significant impact on the World Heritage values of a property (whether the action is to occur inside the property or not).	3.01: Assessment of significant impact on World Heritage values is included in Section 6. Principles are met by the submitted EP.
	3.02 Before the action is taken, the likely impact of the action on the World Heritage values of the property should be assessed under a statutory environmental impact assessment and approval process.	3.02: Assessment of significant impact on World Heritage values is included in Section 6. Principles are met by the submitted EP.
	3.03 The assessment process should: • (a) identify the World Heritage values of the property that are likely to be affected by the action, and • (b) examine how the World Heritage values of the property might be affected, and • (c) provide for adequate opportunity for public consultation.	3.03 (a) and (b): World Heritage values are identified in Section 6 and considered in the assessment of impacts and risks for the Petroleum Activity in Section 6. 3.03 (c): Relevant stakeholder consultation and feedback received in relation to impacts and risks to the World Heritage properties are outlined in Section 6.
	3.04 An action should not be approved if it would be inconsistent with the protection, conservation, presentation or transmission to future generations of the World Heritage values of the property.	3.04: Principles are considered to be met by the acceptance of this EP.
	3.05 Approval of the action should be subject to conditions that are necessary to ensure protection, conservation, presentation or transmission to future generations of the World Heritage values of the property.	3.05: Principles are considered to be met by the acceptance of this EP.
	3.06 The action should be monitored by the authority responsible for giving the approval (or another appropriate authority) and, if necessary, enforcement action should be taken to ensure compliance with the conditions of the approval.	3.06: Principles are considered to be met by the acceptance of this EP.

Note: Sections 1 – General Principles and 2 – Management Planning of Schedule 5 are not considered relevant to the scope of this EP and, therefore, are not included.

2. ENVIRONMENT PLAN PROCESS

2.1 Overview

This section outlines the process Woodside follows to prepare the EP. This includes a description of the environmental risk management methodology that is used to identify, analyse and evaluate risks to meet ALARP and acceptability requirements, and to develop EPOs and EPSs. This section also describes Woodside's risk management methodologies applicable to implementation strategies applied during the activity. The process described is repeated in full with each five-year revision of the EP, incorporating changes to operational requirements and ensuring the environmental management practice applied is contemporary and good industry practice.

2.2 Environment Plan process

Figure 2-1 illustrates the EP development process. Each element is discussed further in the following sections.

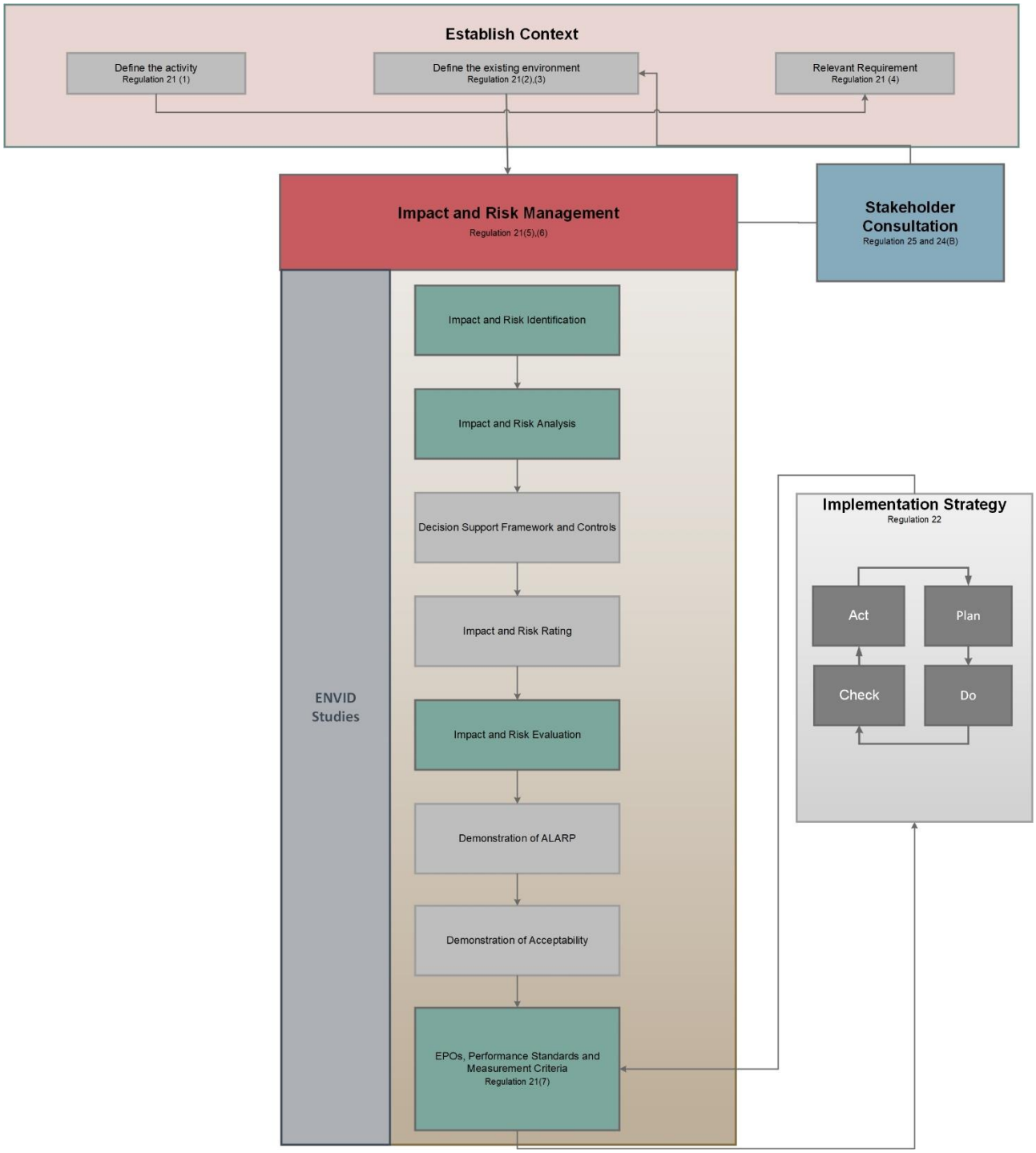


Figure 2-1: Environment Plan development process

2.2.1 Establish the context

Context is established by considering the proposed activities associated with the Petroleum Activity, and the environment in which the activities are planned to take place.

Describing the activity involves evaluating whether the activity meets the definition of a ‘petroleum activity’ as defined in the Environment Regulations. The activity is then described in relation to the location, what is to be undertaken and how, which allows environmental aspects for each activity to be identified (Section 3).

2.2.2 Describe the existing environment

The values and sensitivities relevant to the environment where the Petroleum Activity is undertaken are identified in Section 4, to the extent required to inform potential impacts to environmental receptors from the Petroleum Activity.

A full description of the relevant values and sensitivities relevant to the Petroleum Activity is contained within the Master Existing Environment document. In accordance with Regulation 56(1) of the Environment Regulations, references to the Master Existing Environment within this EP refer to the Master Existing Environment appended as Appendix C of the accepted Julimar Operations EP, which is available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139.

2.2.3 Environmental legislation and other requirements

Relevant legislation and other requirements that apply to the Petroleum Activity are presented in Section 1.7 and Appendix B. These requirements have been considered when developing this EP.

2.2.4 Impact and risk management

2.2.4.1 Impact and risk identification and analysis

As this EP is a five-year revision of an existing operations EP, the risks and impacts from the previous revision of the Okha FPSO Facility EP were reviewed and, where required, revised using the same impact and risk management process applied to new EPs. This allows all previously identified risks and impacts to be fully reassessed, including considering any new or changes to sensitivities, to ensure ALARP and acceptability requirements continue to be met.

The first step of impact and risk management is to identify all credible sources of environmental impacts and risks, including those directly and indirectly associated with the Petroleum Activity and potential emergency and accidental events. This may include environment impacts and risk that are a consequence of the proposed activity but are not within Woodside's control. In this EP:

- planned (routine and non-routine) activities, including contingent activities, that have the potential for inherent changes to the environment are termed environmental 'impacts'.
- unplanned events, including potential emergency and accidental events, that have the potential to result in a change to the environment are termed environmental 'risks'.

Impacts and risks presented in this EP were identified during an environment identification workshop (ENVID) and informed by recent and historic hazard identification and ENVID workshops for similar activities, relevant requirements, activities described in Section 3, and the existing environment the Petroleum Activity has a potential to impact. The ENVID was undertaken by multidisciplinary teams comprising relevant operational and environmental personnel with sufficient breadth of knowledge, training and experience to reasonably assure risks and impacts were identified and their potential environmental consequences were assessed.

During the ENVID, environmental impacts and risks were assessed and controls were assigned to manage them. The ENVID also supported identification of relevant stakeholders to be consulted as part of developing this EP (Section 5). The output of the ENVID, an environmental impacts and risk register, was then used as a basis to develop the risk and impact assessment section of this EP (Section 6).

2.2.4.2 Decision support framework

To support the impact and risk assessment process and Woodside's determination of acceptability, Woodside's health, safety and environment (HSE) risk management procedures include using a decision support framework based on principles set out in the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). Application of the decision support framework confirms:

- activities do not pose an unacceptable environmental risk.
- appropriate focus is placed on activities where the impact or risk is anticipated to be acceptable and demonstrated to be ALARP.

- appropriate effort is applied to manage risks and impacts based on the uncertainty of the risk, the complexity and risk rating (i.e. potential higher-order environmental impacts are subject to further evaluation and assessment).

The framework allows a decision type (A, B, or C) to be selected for each impact and risk, based on several criteria; the decision type is documented in the environmental impacts and risk register. Figure 2-2 summarises the framework, criteria and resulting level of assessment for decision types A, B and C, which are discussed further below.

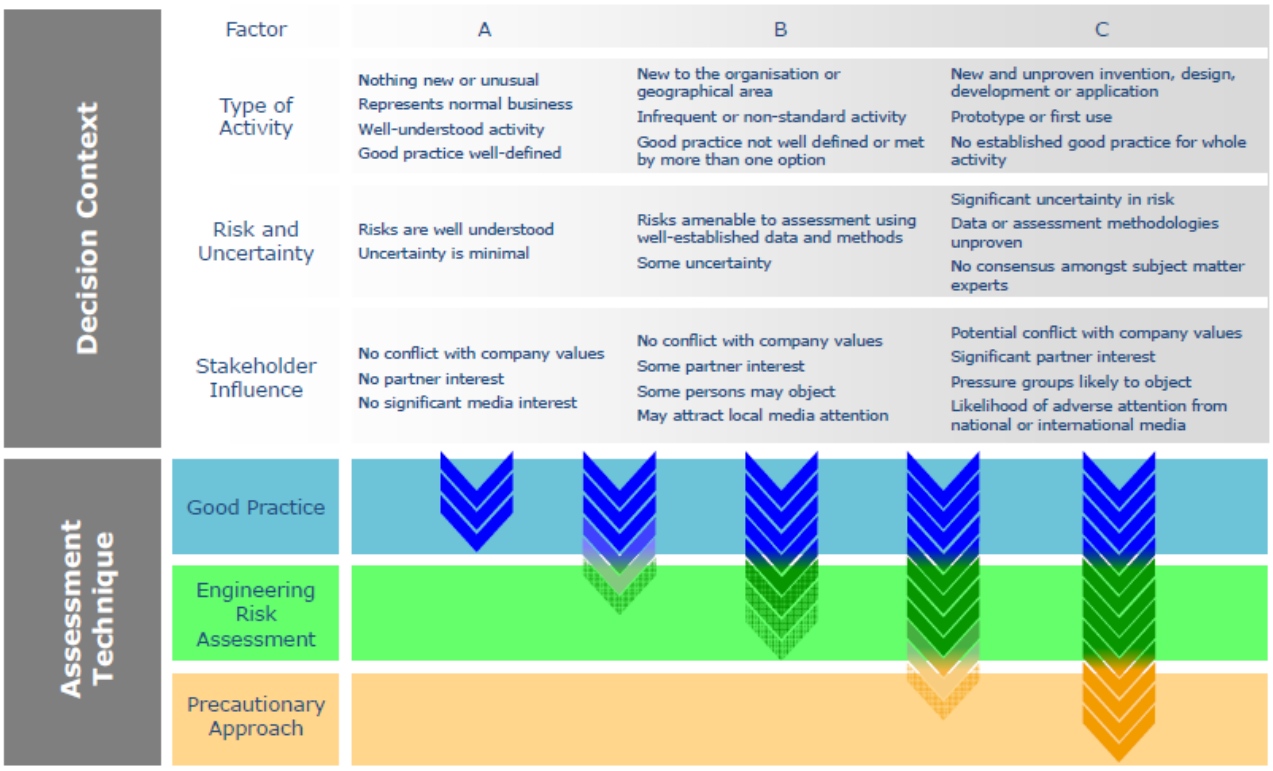


Figure 2-2: Risk-related decision-making framework

Source: Oil and Gas UK, 2014

2.2.4.2.1 Decision Type A

Decision Type A risks and impacts are well understood and established practice. They are generally recognised as good industry practice and are often embodied in legislation, codes and standards, and use professional judgement.

2.2.4.2.2 Decision Type B

Decision Type B risks and impacts typically involve greater uncertainty and complexity and are considered higher-order impacts and risks. These impacts and risks may deviate from established practice or have some lifecycle implications and, therefore, require further engineering risk assessment to support the decision and ensure the risk is ALARP.

2.2.4.2.3 Decision Type C

Decision Type C risks and impacts typically have significant risks related to environmental performance. Such risks typically involve greater complexity and uncertainty, therefore requiring adoption of the precautionary approach. The risks may result in significant environmental impact, significant project risk or exposure, or may elicit negative stakeholder concerns. For these risks or impacts, in addition to Decision Type A and B tools, company and societal values need to be considered by undertaking broader internal and external stakeholder consultation as part of the risk assessment process.

2.2.4.3 Decision support framework tools

The below framework tools were applied, as appropriate, when assessing each impact and risk, to help identify control measures based on the selected decision type described above.

- Legislation, codes and standards (LCS): identifies the requirements of legislation, codes and standards that are to be complied with for the activity.
- Good industry practice (GP): identifies further engineering control standards and guidelines that may be applied by Woodside above that are required to meet the LCS.
- Professional judgement (PJ): uses relevant personnel with the knowledge and experience to identify alternative controls. Woodside applies the hierarchy of control as part of the risk assessment to identify any alternative measures to control the risk.
- Risk-based analysis (RBA): assesses the results of probabilistic analyses, such as modelling, quantitative risk assessment and/or cost-benefit analysis, to support the selection of control measures identified during the risk assessment process.
- Company values (CV): identifies values identified in Woodside's code of conduct, policies and Our Values. Views, concerns and perceptions are to be considered from internal Woodside stakeholders directly affected by the planned impact or potential risk.
- Societal values (SV): identifies the views, concerns and perceptions of relevant stakeholders and addresses relevant stakeholder views, concerns and perceptions.

2.2.4.4 Decision calibration

To determine that the decision type selected and the control measures applied are suitable, the tools that may be used for calibration (i.e. checking) where required are:

- LCS/verification of predictions: verification of compliance with applicable LCS and/or good industry practice
- peer review: independent peer review of PJs, supported by RBA, where appropriate
- benchmarking: where appropriate, benchmarking against a similar facility or activity type or situation that has been deemed to represent acceptable risk
- internal stakeholder consultation: consultation undertaken within Woodside to inform the decision and verify company values are met
- external stakeholder consultation: consultation undertaken to inform the decision and verify societal values are considered.

Where appropriate, additional calibration tools may be selected specific to the decision type and the activity.

2.2.5 Control measures

Once impacts and risks are identified, the potentially impacted receptors are identified and understood, and the decision type is selected, impact and risk reduction measures (i.e. controls) can be applied. Controls are prioritised and categorised in accordance with the hierarchy of controls, where risk reduction measures at the top of the hierarchy take precedence over risk reduction measures further down. The hierarchy of controls is:

- elimination of the impact or risk by removing the hazard[1]
- substitution of a hazard with a less hazardous one
- engineering controls, including design measures to prevent or reduce the frequency, or detect or control, the impact or risk event (limiting the magnitude, intensity and duration) such as:

1 A hazard has the potential to cause harm to the environment.

  - prevention: design measures that reduce the likelihood of a hazardous event occurring
  - detection: design measures that facilitate early detection of a hazardous event
  - control: design measures that limit the extent/escalation potential of a hazardous event
  - mitigation: design measures that protect the environment if a hazardous event occurs
  - response equipment: design measures or safeguards that enable clean-up/response after a hazardous event occurs.
- procedures and administration, including management systems and work instructions used to prevent or mitigate environmental exposure to hazards
- emergency response and contingency planning, including methods to enable recovery from the impact of an event (e.g. protection barriers deployed near the sensitive receptor).

As this EP is a five-year revision of an existing operations EP, controls outlined in the previous revision of the Okha FPSO Facility EP were reviewed for efficiency and revised to align with current Woodside and industry best practice. The ENVID workshop also provided the opportunity to identify where additional controls may now be required and those controls were applied according to the process outlined above.

2.2.6 Impact and risk classification

Environmental impacts and risks are assessed to determine their potential consequence level or risk rating, which can then be evaluated, along with other criteria against the ALARP and acceptability requirements of the Environment Regulations.

The full process for impact and risk classification is described in the subsections below. Although this EP is a five-year revision of an existing operations EP, a full impact and risk assessment was conducted as if it were a new Petroleum Activity. This allows Woodside the opportunity to analyse whether previous risk and impact ratings and existing control measures must be modified.

2.2.6.1 Impact classification

Impacts are classified in accordance with their consequence (Table 2-1) as outlined in Woodside's Risk Management Procedure.

Table 2-1: Woodside risk matrix (environment and social and cultural) consequence descriptions

Environment	Social and cultural	Consequence level
Severe impact on a sensitive feature/s or receiving environment, such as permanent impairment on a highly sensitive area or feature.	Severe, long-term impact to a community, social infrastructure or highly valued areas/items of international cultural and social significance.	**A**
Major impact on environmental feature/s or area/s, such as impact on feature/area of national importance with limited ability to recover.	Major, long-term impact to a community, social infrastructure or highly valued areas/items of national cultural significance.	**B**
Moderate impact on environmental feature/s or area/s, such as impact on feature/area of heightened sensitivity with limited ability to recover.	Moderate, medium-term impact to a community, social infrastructure of highly valued areas/items of national cultural significance.	**C**
Minor impact on environmental feature/s or area/s such as impact on feature of low significance with some ability to recover.	Minor, short-term impact to a community or areas/items of cultural significance.	**D**
Slight and low-level impact on environmental feature/s or area/s of low significance.	Slight, short-term impact to a community or areas/items of cultural significance.	**E**
No lasting effect, localised impact not significant to environmental receptors	Temporary localised impact not significant to areas/items of cultural significance.	**F**

2.2.6.2 Risk classification

The risk classification process assigns a level of risk to each risk event, measured in terms of consequence and likelihood. A risk rating is determined with controls in place once the decision type has been identified.

The steps for risk classification are described in the subsections below.

2.2.6.2.1 Select the risk consequence level

Table 2-1 describes the possible environmental and social and cultural consequence levels for each identified risk assuming all controls (preventative and mitigative) are absent or have failed. Where multiple receptors have the potential to be impacted, the worst-case consequence level is carried into the final risk assessment and evaluation.

2.2.6.2.2 Select the likelihood level

Table 2-2 describes the possible likelihood levels for each identified risk. Likelihood is determined based on the chance of the selected worst-case consequence occurring, assuming reasonable effectiveness of preventative and mitigative controls.

Table 2-2: Woodside risk matrix likelihood levels

	Likelihood description					
	Remote	***Highly unlikely***	***Unlikely***	***Possible***	***Likely***	***Highly likely***
Frequency	1 in 100,000 to 1,000,000 years	1 in 10,000 to 100,000 years	1 in 1000 to 10,000 years	1 in 100 to 1000 years	1 in 10 to 100 years	>1 in 10 years
Experience	Unheard of in the industry	Has occurred once or twice in the industry	Has occurred many times in the industry but not in the company	Has occurred once or twice in the company	Has occurred frequently in the company	Has occurred frequently at the location or activity
Likelihood level	***0***	***1***	***2***	***3***	***4***	***5***

2.2.6.2.3 Calculate the risk rating

The risk rating is derived from the consequence and likelihood levels determined above, in accordance with the Woodside Risk Matrix summarised in Table 2-3.

This risk rating is used as an input into the risk evaluation process and ultimately for prioritising further risk reduction measures. Once each risk is treated to ALARP, the risk rating articulates the ALARP baseline risk in the environmental impacts and risk register.

Table 2-3: Woodside risk matrix determination of risk rating

Consequence level	Likelihood level					
	0	***1***	***2***	***3***	***4***	***5***
A	A0	A1	A2	A3	A4	A5
B	B0	B1	B2	B3	B4	B5
C	C0	C1	C2	C3	C4	C5
D	D0	D1	D2	D3	D4	D5
E	E0	E1	E2	E3	E4	E5
F	F0	F1	F2	F3	F4	F5

Risk rating
Severe
Very High
High
Moderate
Low

2.3 Classification and analysis of major environmental events

For Woodside's offshore production facilities, a further level of analysis is undertaken to identify, classify and analyse major environmental events (MEEs). This extra level of rigour is applied to ensure sufficient controls are in place for risks with potential Major and above consequences. In the health and safety area, major accident events (MAEs) are identified using a similar process, which supports consistency in managing key risks within Woodside in accordance with process safety risk management procedures.

Woodside defines an MEE as an event with potential environment, reputation (pertaining to environment events), social or cultural consequences of level B or higher, as per Woodside's Risk Matrix (Table 2-3). MEEs are evaluated against credible worst-case scenarios that may occur when all controls are absent or have failed.

2.3.1 Major environmental events identification

The ENVID process identifies numerous sources of risk with differing consequence levels. These risks are screened for those risk events that meet the MEE criteria; MEE risks are analysed further through detailed consequence modelling and probability/frequency studies and examined for 'appropriateness' of controls in a bowtie risk assessment.

Risks that do not meet the MEE definition, although screened out of the MEE process, are still evaluated for ALARP and risk acceptability using the methodology described in Section 2.4. Some high consequence/low probability events that do not meet the MEE consequence threshold may still undergo additional consequence and probability assessment where they could have a high adverse impact on the company's reputation or relationships with relevant persons, beyond requirement to demonstrate ALARP and acceptable risk levels after applying controls.

2.3.2 Major environmental events classification

A standard naming convention is established for MEEs, based around ensuring the MEE titles reflect the cause of the event, such as 'subsea system loss of containment', rather than the event itself, such as significant hydrocarbon spill to the marine environment. The MEEs are assigned a unique identification code, e.g. MEE-01, MEE-02.

2.3.3 Bowtie analysis

MEEs are subject to more detailed analysis using the bowtie risk assessment technique, which illustrates outcomes and controls in place to prevent the 'top event' or mitigate the consequences. The key drivers for adopting the bowtie technique for MEEs are that it:

- identifies the controls (prevention and mitigation barriers) necessary to ensure the risk is acceptable and ALARP
- supports the process of demonstrating ALARP (described in Section 2.4)
- enables verification of and linking to the relevant sections of the WMS that supports barriers
- improves the capacity for lessons learnt and incident prevention by being able to directly relate causes of an incident to those controls that failed
- ensures greater visibility and granularity in the assessment process and enables complex risk scenarios to be presented in an easy-to-understand format.

The bowtie technique (an example bowtie diagram is shown in Figure 2-3) shows the relationships between the 'causes' that may lead to a particular unwanted event ('top event'), together with the range of potential escalation paths that can lead to various 'outcomes' (or consequences). A bowtie also shows the preventive barriers that may prevent a top event from occurring specific to each cause, and the mitigation barriers in place to limit the potential effects once the top event has been realised, specific to each credible MEE outcome.

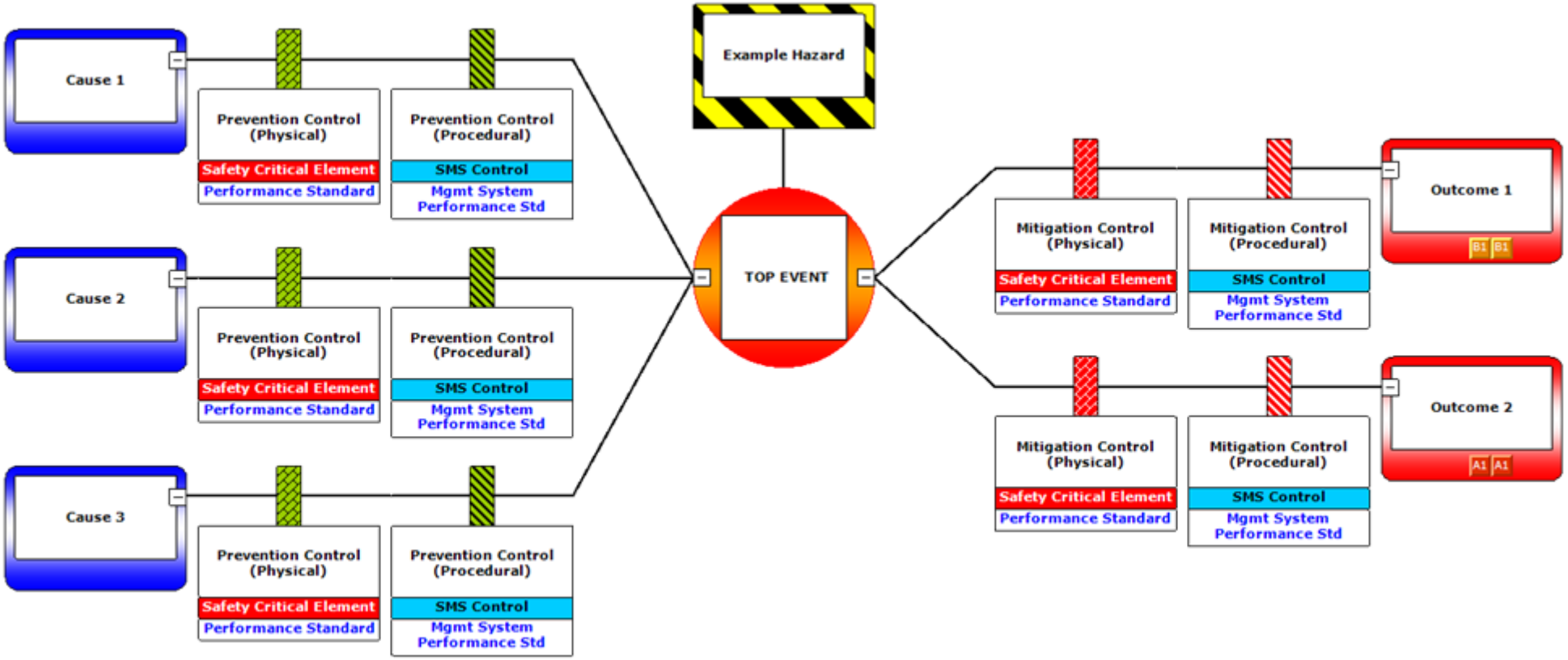


Figure 2-3: Example of bowtie diagram structure

2.3.4 Major environmental events register

An MEE register is prepared for each production facility after completing bowtie diagrams. This register records the MEE identification process, groupings, bowtie diagrams and datasheets in a consolidated format. Datasheets are prepared for each MEE, which summarise the hazard description, hazard management, emergency response, ALARP summary and a list of critical barriers identified on the bowties (known as safety and environment critical elements [SCEs]).

Potential common causes that contribute to MAEs/MEEs, or that can result in failure or degradation of the controls in place to protect against MAEs/MEEs, include some generic mechanisms of SCE failure and generic human error. These are represented in bowties applicable to multiple MEEs and identified in MEEs applicable to this EP.

2.3.5 Safety and environment critical elements and related technical performance standards

Woodside identifies and manages SCEs technical and management system performance standards in accordance with Process Safety Management Procedures, Risk Management Procedures and Change Management Procedures (further described in the implementation strategy in Section 7.2.8). SCEs are identified for MAEs and MEEs. An SCE is a hardware control, the failure of which could cause or contribute substantially to, or the purpose of which is to prevent or limit the effect of a MAE, MEE or Process Safety Event. In addition, Woodside defines a Safety and Environment Critical Component (SCC) as an item of equipment or structure forming part of a hardware SCE that supports the SCE in achieving the safety function.

Once an SCE is identified as an MEE barrier for the operated facility, technical performance requirements are developed for the facility SCE in accordance with the Global SCE Performance Standards and process described in the Management of Hardware Controls in the Operate Phase Procedure and form the SCE Facility Performance Standard. Each SCE Performance Standard represents a statement of the performance required of an SCE (e.g., functionality, availability, reliability, survivability). SCE Performance Standard requirements are used to establish agreed assurance tasks for each SCE, support the management of operations within acceptable safety and/or environment risk levels, and ensure continuous management of risk to ALARP. An assurance task is an activity carried out by the operator to confirm that the SCE meets, or will meet, its SCE Performance Standard. Examples of assurance tasks include inspection routines, maintenance activities, test routines, instrumentation calibration, and reliability monitoring.

SCE Facility Performance Standards do not always align directly with EPSs. They are used in conjunction with the WMS to identify and treat potential step-outs from expected controls performance or integrity envelopes and ensure SCE performance can be optimised. Woodside's HSE Event Reporting Guideline describes the process for identifying 'Failure to meet Facility Performance Standard', which is when the SCE does not meet the goal as stated in the relevant Performance Standard (see Section 7.2.9). Situations where SCEs fail to meet Facility Performance Standards represent a potential increase in risk that, if not addressed immediately, have the potential to result in a process safety event, or worsen the consequences of one. Recording SCE Failure to Meet Performance Standard Events into the Event Reporting Database is important to highlight risk, investigate causes, manage risks and meet potentially applicable external reporting requirements. For applicable SCEs, 'Failure to meet Facility Performance Standard' represent scenarios that may fail to achieve an EPS presented in this EP.

The results of the MEE classification and analysis for Petroleum Activity are presented in Section 6.7.1 of this EP. More detail on the SCE and Performance Standards process, and the interrelationships to other parts of the Management of Hardware Controls in the Operate Phase Procedure, is described in Section 7.2.9.

2.3.6 Safety-critical management system barriers

For each MEE, safety-critical management system specific measures are also identified. These are management system components (generally WMS processes) that are key barriers to, or measures for, managing MEEs.

2.4 Impact and risk evaluation

In accordance with Environment Regulations 34(a), 34(b), 34(c) and 21(5)(b), Woodside applies the following process to demonstrate ALARP and acceptability for environmental impacts and risks, appropriate to the nature and scale of each impact or risk.

2.4.1 Demonstration of 'as low as reasonably practicable'

The descriptions in Table 2-4 articulate how Woodside demonstrates that each impact and risk identified within this EP are ALARP.

Table 2-4: Summary of Woodside's criteria for demonstrating 'as low as reasonably practicable'

Risk	Impact	Decision type
Low and moderate (below C, D, E or F level consequence)	***Negligible, slight, or minor (D, E or F)***	***A***
Woodside demonstrates these impacts, risks and decision types are reduced to ALARP if: • identified controls meet legislative requirements, industry codes and standards, applicable company requirements and industry guidelines, or • further effort towards impact/risk reduction (beyond using opportunistic measures) is not reasonably practicable without sacrifices that are grossly disproportionate to the benefit gained.		
High, very high or severe (A or B level consequence)	***Moderate and above (C, B or A)***	***B and C***
Woodside demonstrates these higher-order risks, impacts and decision types are reduced to ALARP where it can be shown good industry practice and RBA are employed, if legislative requirements are met, societal concerns are accounted for, and the alternative control measures are grossly disproportionate to the benefit gained.		

2.4.2 Demonstration of acceptability

The descriptions in Table 2-5 articulate how Woodside demonstrates how each impact and risk identified within this EP are acceptable.

Table 2-5: Summary of Woodside's criteria for acceptability

Risk	Impact	Decision type
Low and moderate	***Negligible, slight, or minor (D, E or F)***	***A***
Woodside demonstrates these lower order impacts, risks and decision types are 'broadly acceptable' if they meet the ALARP requirements for lower order risks and impacts described above (Table 2-4).		
High, very high or severe	***Moderate and above (C, B or A)***	***B and C***
Woodside demonstrates these higher-order risks, impacts and decision types are 'acceptable if ALARP' if it can be demonstrated good industry practice and RBA are used, if legislative requirements are met and societal concerns are accounted for, and the alternative control measures are grossly disproportionate to the benefit gained. In undertaking this process for moderate and high risks, Woodside evaluates: • the principles of ESD as defined under the EPBC Act • the internal context – the proposed controls and consequence/risk level are consistent with Woodside policies, procedures and standards • the external context – the environment consequence and stakeholder acceptability are considered • other requirements – the proposed controls and consequence/risk level are consistent with national and international industry standards, laws and policies, and consideration of applicable plans for management and conservation advice, conventions and significant impact guidelines (e.g. MNES). Additionally, very high and severe risks require 'escalated investigation' and mitigation. If, after further investigation, the risk remains in the very high or severe category, the risk requires appropriate business engagement, with increasing involvement of senior management in accordance with Woodside's Risk Management Procedure, to accept the risk. This includes due consideration of regulatory requirements.		

2.5 Recovery plan and threat abatement plan assessment

To support the demonstration of acceptability, a separate assessment is undertaken to demonstrate that the EP is not inconsistent with any relevant recovery plans or threat abatement plans, which are presented in Section 6.8. This assessment follows the following process:

- Identify relevant listed threatened species and ecological communities.
- Identify relevant recovery plans and threat abatement plans.
- List all objectives and (where relevant) the action areas of these plans and assess whether these objectives/action areas apply to government, the titleholder, and the Petroleum Activity.
- For those objectives/action areas applicable to the Petroleum Activity, identify the relevant actions of each plan, and evaluate whether impacts and risks resulting from the activity are clearly not inconsistent with that action.

2.6 Implement, monitor, review and report

An implementation strategy for the Petroleum Activity describes the specific measures and arrangements to be implemented for the duration of the program. The strategy is based on the requirements of the Environment Regulations, and demonstrates:

- control measures are effective in reducing the environmental impacts and risks of the Petroleum Activity to ALARP and acceptable levels
- EPOs and EPSs set out in the EP are met through monitoring, recording, auditing, managing non-conformance, and reviewing
- all environmental impacts and risks of the Petroleum Activity are periodically reviewed in accordance with Woodside's risk management procedures
- roles and responsibilities are clearly defined, and personnel are competent and appropriately trained to implement the requirements set out in this EP, including in emergencies or potential emergencies
- arrangements are in place for oil pollution emergencies, to respond to and monitor impacts
- environmental reporting requirements are met, including 'reportable incidents'
- appropriate consultation is undertaken throughout the activity.

The implementation strategy is presented in Section 7.

2.7 Stakeholder consultation

Woodside undertakes consultation in the course of preparing EPs. The consultation, along with the process for ongoing engagement and consultation throughout the activity, is presented in Section 5. A copy of the full text correspondence is provided in Appendix F.

3. DESCRIPTION OF THE ACTIVITY

3.1 Overview

This section was prepared in accordance with Regulation 21(1) of the Environment Regulations and describes the activities to be undertaken as part of the Petroleum Activity covered in this EP.

The description of the activity includes the location, general details of the Okha FPSO facility's layout and inventory, the operational details, and information about supporting activities relevant for considering environmental risks and impacts. The infrastructure described in this EP forms part of a broader network of offshore oil and gas infrastructure and an onshore processing gas processing facility in Karratha, collectively referred to as the North West Shelf (NWS) Project.

Okha is a standalone FPSO. It is designed to separate, process, store and offload oil, as well as export gas from the CWLH fields. The activity includes offtake of oil to trading tankers, and transport of export gas via the WC GEL. The production system comprises subsea wells and infrastructure (e.g. wellheads, xmas trees, manifolds, umbilicals, flowlines, and risers), as well as the riser turret mooring (RTM) system.

The WC GEL connects to the North Rankin Alpha (NRA) pipeline end manifold (PLEM), from where gas is directed via one of two trunklines to shore for processing at the Karratha Gas Plant (KGP). The NRA PLEM and trunklines are outside the scope of this EP and are instead covered in the accepted North Rankin Complex (NRC) Facility Operations EP.

Gas produced from the CWLH field accounts for less than 0.01% of gas processed onshore at KGP. The majority of gas processed at KGP comes from fields produced through other offshore oil and gas assets of the NWS Project (99.99%).

Table 3-1 outlines the activities included within the Petroleum Activity.

Table 3-1: Petroleum Activity overview

Item	Description
Permit titles	WA-9-L, WA-11-L and WA-16-L
Pipeline license	WA-4-PL
Location	Approximately 125 km north-west of Karratha (from the Okha FPSO facility) Approximately 119 km north-west of Dampier (from the Okha FPSO facility)
Water depth	80 m (at the Okha FPSO facility) – 125 m (at the western end of the WC GEL)
Number of wells	• Nine production wells • Six redundant wells
Subsea infrastructure	• Wellheads • Xmas trees • Manifolds • Spools • Flowlines • Jumpers • Umbilicals • Risers • WC GEL
Vessels	• Facility support vessels • IMMR vessels
Key activities	• Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL. • Routine IMMR activities

Item	Description
	• Operation of the Okha FPSO facility, including associated activities such as lifting, bunkering, and operation of support vessels and helicopters • Major projects, such as refurbishment, modification or major maintenance of the FPSO; this includes disconnection and sailing off-station

3.2 Location

The Okha FPSO facility is located in Commonwealth waters in production license WA-11-L in approximately 80 m of water over the central area of the Wanaea field. Subsea infrastructure associated with the FPSO is located in production licences WA-9-L, WA-11-L, and WA-16-L. The WC GEL operates under pipeline licence WA-4-PL, varying in water depth from approximately 80 m at its eastern end (at Okha), to approximately 125 m at its western end (approximately 32 km west of the Okha FPSO facility). The Okha FPSO facility is located approximately 104 km from the closest coastline and approximately 119 km north-west of the town of Dampier (Figure 3-1).

The RTM system and subsea wells are marked on nautical maps and the RTM system is surrounded by a 500 m petroleum safety zone (PSZ) and a 2.5 NM cautionary zone. The coordinates of the Okha FPSO facility and associated infrastructure are listed in Table 3-2. A full field inventory is provided in Section 3.5.6.

There other exploration wells with wellheads in the titles that are covered by the accepted NWS and Julimar Wellhead Decommissioning EP (refer to Section 3.5.6).

Table 3-2: Approximate location details for the Petroleum Activity

Infrastructure	Water depth (approx. m LAT)	Latitude (WGS84)	Longitude (WGS84)	Petroleum title(s)
Okha FPSO facility and RTM system	80	19° 35′ 20.695″S	116° 26′ 48.651″E	WA-11-L
East end of Okha WC GEL (Okha facility)	76	19°35′20.92″S	116°26′33.75″E	WA-4-PL
West end of Okha WC GEL (NRC facility)	125	19°35′07.14″S	116°08′21.88″E	WA-4-PL
Production wells				
Cossack-4H (CK4)	81	19° 33′ 22.909″ S	116° 29′ 35.754″ E	WA-9-L
Wanaea-8 (WA8)	83	19° 34′ 40.796″ S	116° 26′ 59.438″ E	WA-9-L
Wanaea-6 (WA6)	82	19° 34′ 41.849″ S	116° 26′ 58.559″ E	WA-9-L
Wanaea-7ST1 (WA7)	82	19° 35′ 31.586″ S	116° 26′ 6.622″ E	WA-11-L
Wanaea-9ST1 (WA9)	80	19° 36′ 45.783″ S	116° 24′ 45.838″ E	WA-11-L
Lambert-6 (LH6)	128	19° 26′ 56.873″ S	116° 29′ 16.854″ E	WA-16-L
Lambert-3 (LH3)	128	19° 26′ 58.469″ S	116° 29′ 16.227″ E	WA-16-L
Redundant wells				
Wanaea-1ST1 (WA1)	82	19° 35′ 30.385″ S	116° 26′ 7.466″ E	WA-11-L
Wanaea-2A (WA2)	79	19° 36′ 44.588″ S	116° 24′ 46.054″ E	WA-11-L
Wanaea-3 (WA3)	83	19° 34′ 41.837″ S	116° 27′ 0.216″ E	WA-9-L
Wanaea-11A (WA11)	81	19° 35′ 32.159″ S	116° 26′ 8.927″ E	WA-11-L
Lambert-4 (LA4)	128	19° 26′ 57.820″ S	116° 29′ 15.427″ E	WA-16-L
Lambert-7 (LA7)	129	19° 26′ 57.974″ S	116° 29′ 18.617″ E	WA-16-L

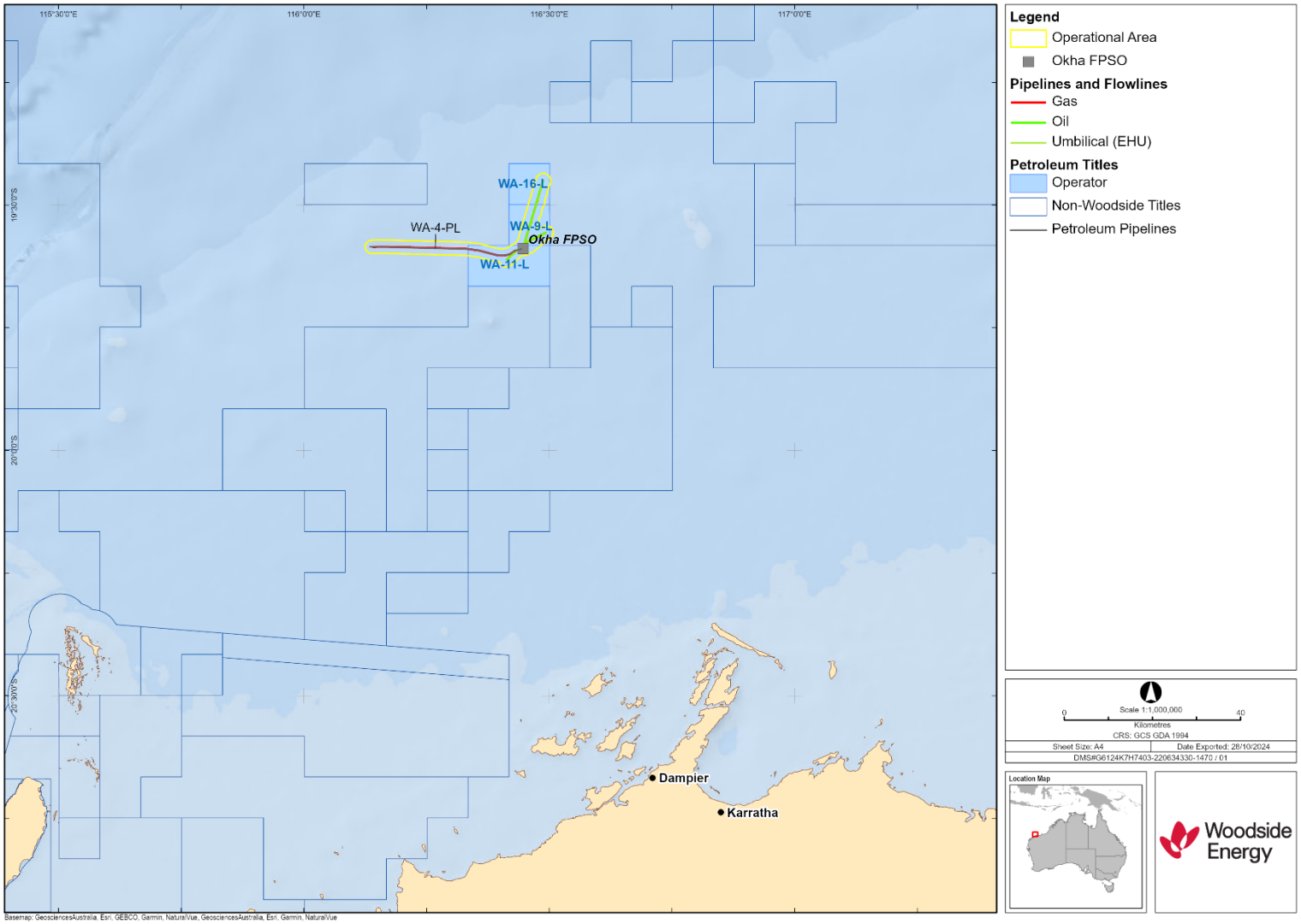


Figure 3-1: Location of the Petroleum Activity

3.3 Operational Area

The Operational Area defines the spatial boundary of the Petroleum Activity, as described, risk-assessed and managed by this EP. The area is shown in Figure 3-1 and includes:

- the Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities (including the 500 m PSZ around the RTM system)
- the Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m from the infrastructure
- the WC GEL ending at the NRA PLEM, and an area within 1500 m of the infrastructure.

Vessel-related activities within the Operational Area will comply with this EP. Vessels supporting the Petroleum Activity when outside the Operational Area must adhere to applicable maritime regulations and other requirements. This EP applies to activities undertaken within the Operational Area, as described in this section.

3.4 Timing

The Okha FPSO facility commenced production in 2011. From 1995 to 2011, the CWLH fields were produced through the Cossack Pioneer FPSO. The Okha FPSO facility normally operates continuously 24 hours a day.

The Petroleum Activity currently has an estimated end of field life (EOFL) anticipated for 2031, subject to reservoir performance and life extension studies.

Supporting operations, such as IMMR activities, take place as required. Typical IMMR campaigns occur for approximately one week at a time.

The CWLH fields are predicted to continue production during the life of this EP. Tie-back opportunities, which have the potential to extend the life of the field, are continuously being reviewed for Woodside's offshore facilities. If any tie-back opportunities are identified during the life of this EP, they would be subject to a separate EP.

This EP is intended to remain in force for up to five years from EP acceptance by the regulator.

3.5 Infrastructure layout

This section provides a high-level overview of the Okha FPSO facility and associated infrastructure. It provides for an inventory of infrastructure, as relevant for considering the environmental risks and impacts associated with the Petroleum Activity.

3.5.1 Topsides

The Okha FPSO facility is a converted double-hull tanker 318 m long in total (from the front of the rigid arm to the back of the helideck) and 48 m wide. The deck is approximately 15 m above sea level (at minimal draft) to 9 m above sea level (at maximum draft). The process and utility equipment on the topsides comprises 11 pre-assembled units (PAUs), accommodation facilities, central control room (CCR) and laydown, supply handling and storage areas.

The accommodation facilities and CCR are located at the stern of the vessel; the PAUs are located as far from these areas as possible. The PAUs are also elevated above the FPSO deck and have a plated lower deck and grated upper decks. Each PAU has its own primary structure, equipment and associated piping, valves and instrumentation.

The PAUs, listed below and shown in Figure 3-2, are:

- M01: Separation
- M03: Export gas and compression
- M05: Gas lift compression

- M06: Flare knock out drums
- M07: Gas processing
- M08: Portside laydown/chemicals
- M11: Power generation and utilities
- M12: Power generation
- M13: Local equipment
- M20: Pipe rack
- M25: Flare stack.

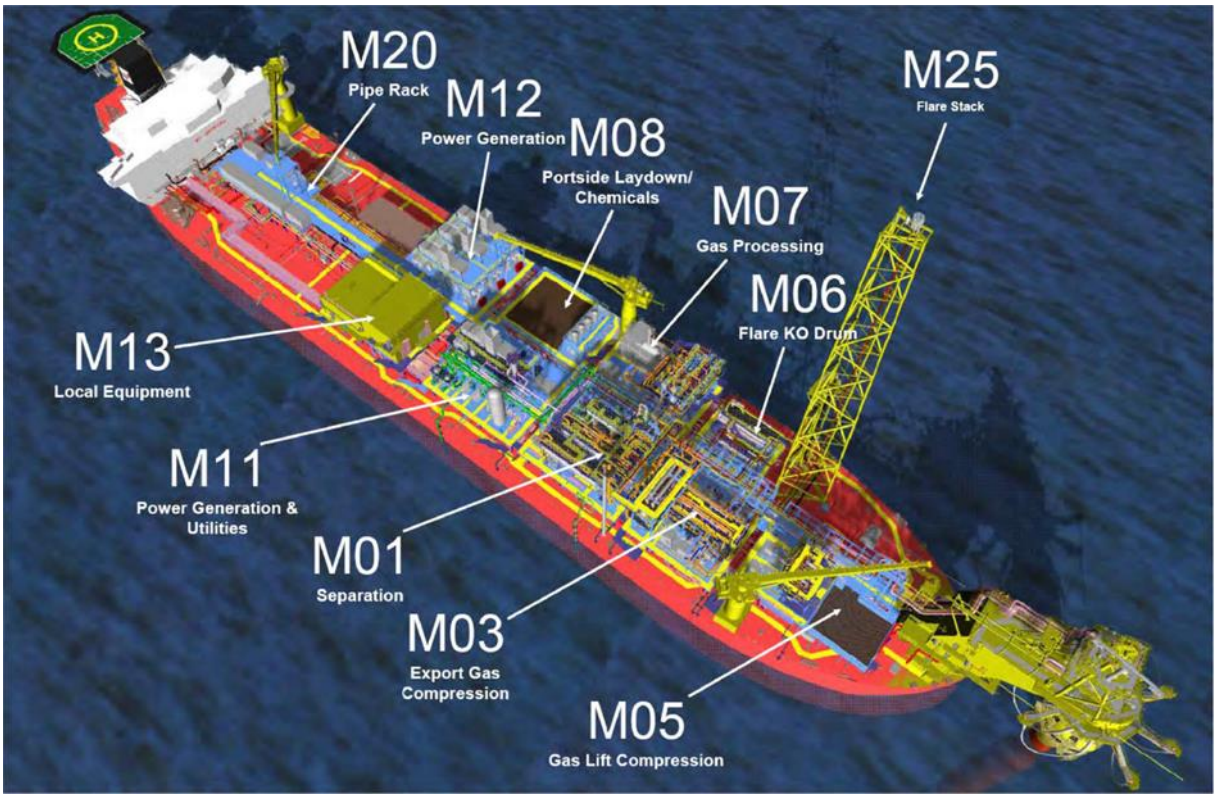


Figure 3-2: Topsides layout

3.5.2 Wells and reservoirs

Subsea production wells are listed in Table 3-3, tied back to the Okha FPSO facility via five production manifolds.

Table 3-3: Wells and reservoirs associated with the Petroleum Activity

Reservoir Field	Number of Wells	Well Names
Cossack	1	CK4
Lambert	2	LA4[1], LA7[1]
Hermes	2	LH3, LH6
Wanaea	8	WA1[1], WA2[1], WA3[1], WA11[1], WA6, WA7, WA8, WA9

1. These wells are currently redundant.

All wells are managed in accordance with an accepted well operations management plan (WOMP), which describe the control measures that are in place to ensure any risks to the well integrity are reduced to ALARP, including during periods of non-operation, e.g. during cyclone disconnection of the FPSO and before permanent abandonment.

The CWLH fields contain light crude oil with varying gas-to-oil ratios. Oil from the Wanaea reservoir has a relatively high gas-to-oil ratio, while the Cossack, Lambert and Hermes reservoirs do not contain as many light components.

All production wells use gas lift to optimise production. Gas lift is supplied from the Okha FPSO facility and is distributed to individual wells via flowlines interconnecting the gas lift integrated manifold, the gas lift inline skid, and the gas lift end skid.

The Okha FPSO facility's integrated control and safety system monitors all subsea xmas tree and manifold instrumentation and operates subsea tree valves via the subsea control system. In the event of loss of containment due to the failure of both primary and secondary barriers of the well, a surface -controlled subsurface safety valve (SCSSV) is installed on each well to act as an emergency well barrier. These valves are designed with a failsafe to automatically close upon a loss of hydraulic pressure. When opening these fail-safe valves, some SCSSVs in the CWLH fields are difficult to open due to high differential pressure. To aid opening, the activity of bullheading seeks to apply pressure above the SCSSV, thereby allowing reservoir fluids to recommence flow past the SCSSV. This pressure is applied from the FPSO topsides via the subsea system. The use of fuel gas is preferred for this task, although diesel may be required is some scenarios. All fluids are then produced back to the FPSO in the typical production pathways.

Redundant production wells are maintained through an IMMR activity schedule and are monitored and inspected per frequency based on their assessed risk. Redundant wells continue to be managed through IMMR activities under this EP. They will remain subject to performance standard P10 until they are permanently plugged for abandonment, which would occur under a separate EP. All redundant production wells, except WA2, remain connected to the Okha FPSO facility via associated subsea infrastructure. Although disconnected from the Okha FPSO facility, associated WA2 subsea infrastructure remains subject to ongoing integrity monitoring under this EP.

Wanaea-10 (WA10) is a historical well drilled in the title areas, it has been fully plugged and abandoned with the wellhead removed. Wanaea-11 is a historical well which was commenced before well construction challenges prevented progress and resulted in a respud at the Wanaea-11a (WA11) location. Wanaea-11 consists of a 36” conductor installed to 146mRT, the 36” conductor installed at Wanaea-11 will be removed as part of the field wide decommissioning execution. Decommissioning is planned for an additional 4 wells in the title areas under the accepted North West Shelf (NWS) and Julimar Exploration Wellhead Decommissioning EP (refer to Table 3-7, Section 3.5.6).

3.5.3 Subsea infrastructure

The main components of subsea infrastructure include wells, wellheads, xmas trees, manifolds, spools, flowlines, jumpers, umbilicals, risers, the gas export riser and the WC GEL. The layout of the Okha subsea infrastructure is shown in Figure 3-3.

The subsea infrastructure makes up the subsea system, which is typically controlled from the Okha FPSO facility through:

- umbilicals, which provide hydraulic services, electric power and control services, and chemical injection, as required
- valves and chokes to control subsea operations and processes
- subsea control modules (SCMs), which are sealed and pressure-compensated electrohydraulic units (typically found on the manifolds and xmas trees) that communicates to instrumentation and direct hydraulic fluid to function valves as commanded from the FPSO.

An inventory of infrastructure on the titles is provided in Section 3.5.6.

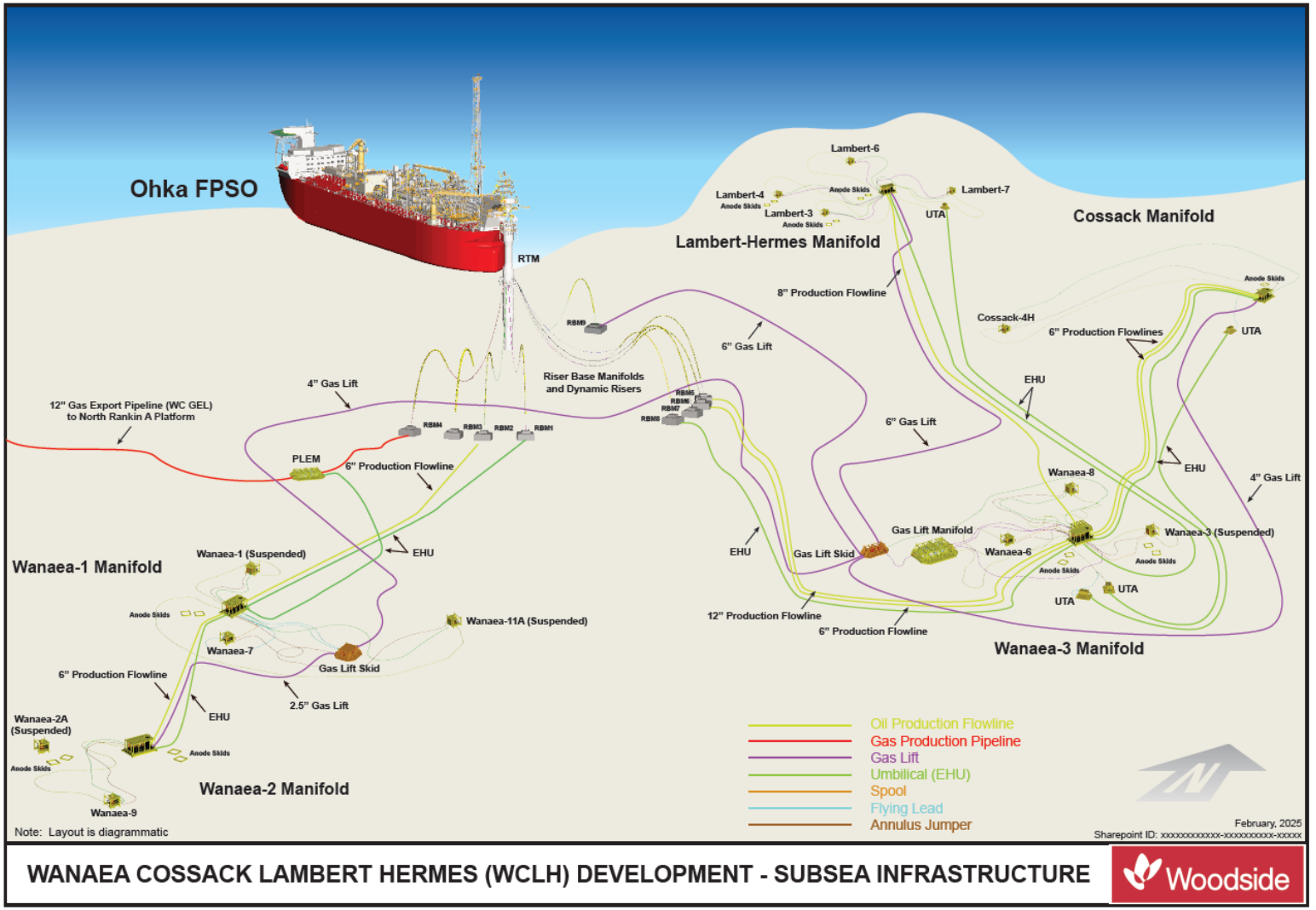


Figure 3-3: Okha floating production, storage and offloading facility subsea infrastructure schematic

3.5.4 Gas export line system

Gas is exported from the Okha FPSO facility via a 197 m riser and a 420 m flexible flowline that transports gas through the 32 km 12-inch WC GEL. The WC GEL connects to the NRA PLEM, from where gas is directed via one of two trunklines to the shore for processing at the KGP. The NRA PLEM and two trunklines are within the scope of the accepted North Rankin Complex Facility Operations EP.

3.5.5 Riser turret mooring system

The RTM system is made up of a riser column, eight anchor chains and associated gravity anchor boxes. When connected to the Okha FPSO facility, the bottom of the column is nominally 30 m above the seabed. When the FPSO is disconnected, approximately 5.5 m protrudes above sea level and has adequate navigational lighting. Figure 3-4 presents the upper section of the RTM arrangement.

The primary functions of the RTM system is to:

- moor the Okha FPSO facility on station and allow the vessel to freely weathervane
- allow connection to and disconnection from the riser column if weather conditions exceed the design limits of the connected system, or planned remedial or modification works are undertaken
- support the flexible risers and the mooring chains in both connected and disconnected modes
- provide fluid transfer and control system communication between the Okha FPSO facility and subsea infrastructure.

The mooring configuration is shown in Figure 3-5. Mooring chains are approximately 500 m in length (refer to Section 3.5.6).

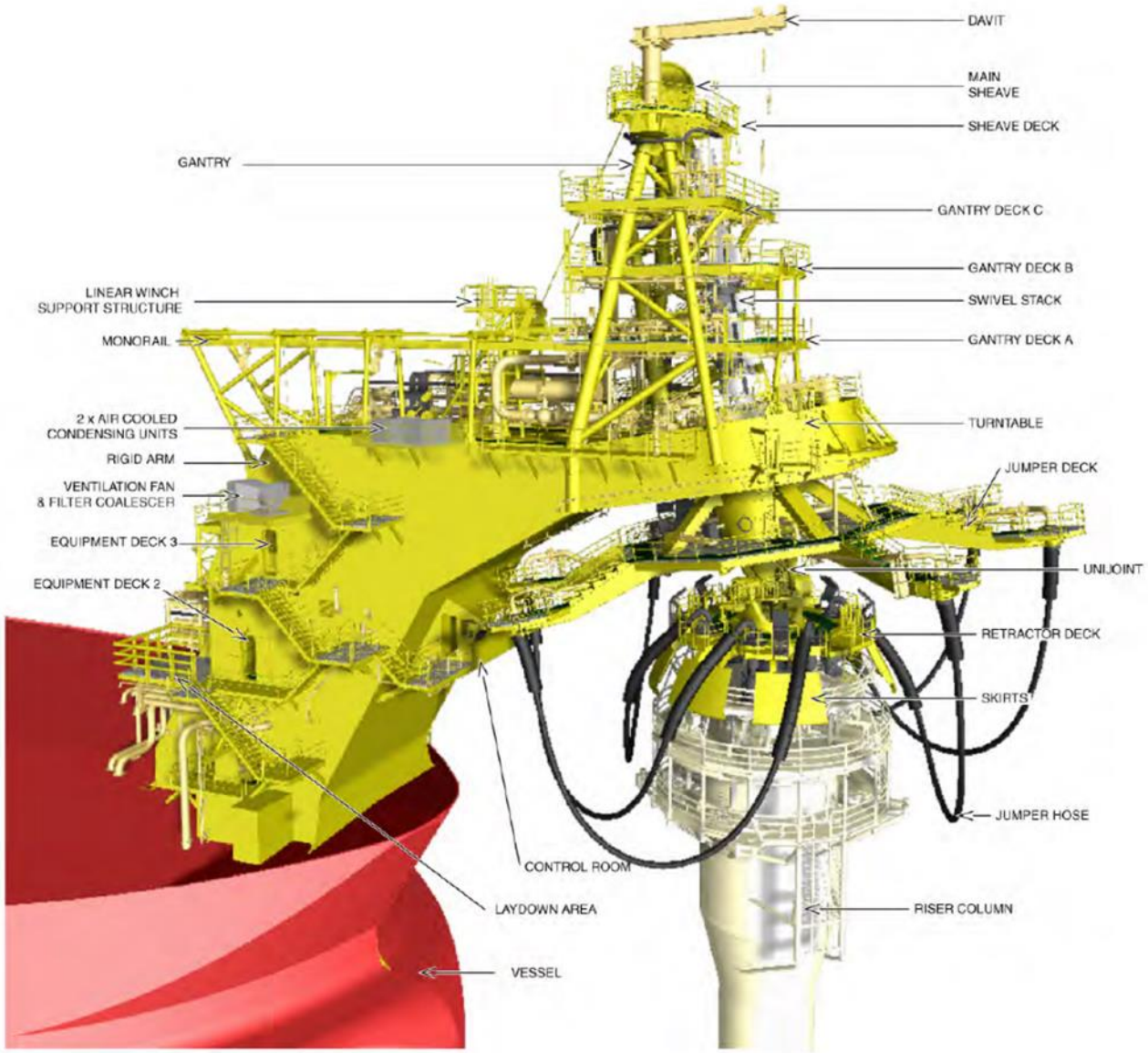


Figure 3-4: Riser turret mooring arrangement (upper sections)

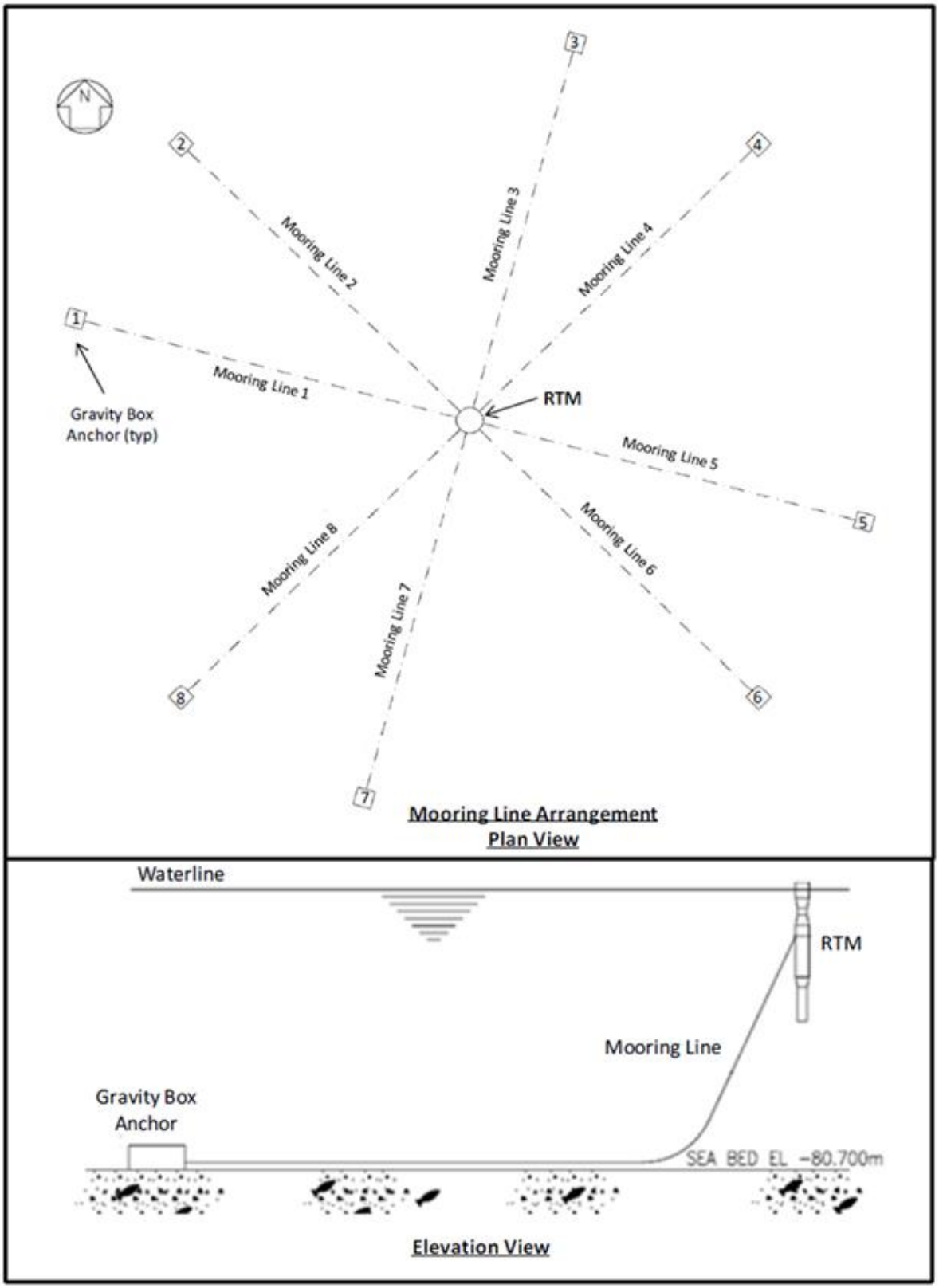


Figure 3-5: Mooring system and line arrangement for the riser turret mooring

3.5.6 Field inventory

The infrastructure within the Operational Area is recorded and tracked using a database, which is updated as equipment is brought into title, including replacement equipment. As-found and as-left surveys are undertaken during installation or replacement of infrastructure using remotely operated vehicle (ROV) to identify the location of items installed on the seabed. This data is then used to update the inventory for the title. Material items dropped to the marine environment and not recovered are also added to the inventory for the title.

An inventory of the key infrastructure for the title areas relevant to this EP is provided in Table 3-4 to Table 3-6. Decommissioning planning for infrastructure, including that which is listed as redundant in the tables is described in Section 7.3.

The infrastructure listed in Table 3-7 is also located on the title areas but is outside the scope of this EP and covered under the referenced separate EPs.

Table 3-4: Inventory and status of the wellheads and key surface and subsea infrastructure on the title areas relevant to this Environment Plan

Infrastructure	Status[1]	Number	Title(s)	Note
Surface infrastructure				
FPSO	Active	1	WA-11-L	Okha FPSO Facility
RTM	Active	1	WA-11-L	Located 30 m above the seabed when connected to the FPSO. 5.5 m protrudes above sea level when not connected to the FPSO.
Subsea infrastructure				
Wellheads	Active	7	WA-9-L, WA-16-L, WA-11-L	Refer to Table 3-3 for wells associated with the Petroleum Activity.
	Redundant	6	WA-9-L, WA-11-L	
Production manifold	Active	5	WA-9-L, WA-16-L, WA-11-L	-
Gas lift manifold/skid	Active	3	WA-9-L, WA-11-L	-
Pipeline end manifold (PLEM)	Active	1	WA-11-L	Wanaea PLEM
Mooring anchors and chains	Active	8	WA-11-L	Refer to Section 3.5.5 for configuration.
FPSO riser base	Active	7	WA-11-L	-
	Redundant	2	WA-11-L	
Umbilical termination assembly (UTA)	Active	4	WA-9-L, WA-16-L	-
Subsea distribution unit assembly (SDUA)	Active	1	WA-9-L	-
Anode Skids	Active	42	WA-9-L, WA-16-L, WA-11-L	-

[1]Status at the time of EP submission

Table 3-5: Inventory and status of pipelines, flowlines, risers and spools on the title areas relevant to this Environment Plan

Infrastructure	Status[1]	Number	Total length (m)	Title(s)
WC GEL	Active	1	32,387	WA-4-PL (pipeline license)
Rigid spools	Active	8	247	WA-9-L, WA-11-L
Flexible risers and flowlines[2]	Active	28	63,767	WA-9-L, WA-16-L, WA-11-L
	Redundant	14	38,364	WA-9-L, WA-16-L, WA-11-L

[1]Status at the time of EP submission

[2]Diameters ranging from 2.5 to 12 inches

Table 3-6: Inventory and status of umbilicals and jumpers on the title areas relevant to this Environment Plan

Infrastructure	Status[1]	Number	Total length (m)	Title(s)
Umbilicals	Active	8	48,671	WA-9-L, WA-16-L, WA-11-L
Jumpers	Active	48	3,761	WA-9-L, WA-16-L, WA-11-L
	Redundant	3	262	WA-9-L, WA-11-L

[1]Status at the time of EP submission

Table 3-7: Other infrastructure in the title areas outside the scope of this Environment Plan

Infrastructure	Title(s)	Relevant accepted EP
4 exploration wells[1]: • Cossack-1 (WA-9-L) • Wanaea-4 (WA-11-L) • Lambert-1 (WA-16-L) • Lambert-5ST1 (WA-16-L)	WA-9-L, WA-16-L, WA-11-L	North West Shelf (NWS) and Julimar Exploration Wellhead Decommissioning EP[2]
Export gas pipeline connecting the Angel platform to the NRC platform[3]	WA-9-L	Angel Production Operations EP
Lambert deep subsea infrastructure (including wells) connecting to the Angel platform[3]	WA-16-L	Angel Production Operations EP

[1]Status at the time of EP submission

[2] Madeline-1 (WA-11-L), Walcott-1 (WA-11-L), Cossack-6ST1 (WA-9-L) wellheads have already been removed under this EP

[3] Refer to Table 4-23 for infrastructure overlapping the Operational Area

3.6 Operational details

3.6.1 Crewing and modes of operation

The total overnight capacity of personnel on board for the Okha FPSO facility is 80 people. The CCR is crewed 24 hours a day. Operational activities that affect crewing levels are:

- crew change
- FPSO disconnection for cyclone avoidance
- engineering projects
- campaign maintenance
- inspections/audits

- planned facility shutdowns.

The number of personnel on board is guided by requirements to maintain a safe and efficient operation.

Modes of operations include major projects, normal production and maintenance, and FPSO sail-away.

3.6.1.1 Production and maintenance

Production and maintenance covers hydrocarbon receipt, processing, storage for offtake, offtake to export tankers and supporting operations. While operating in this mode, maintenance may occur on the Okha FPSO facility topsides and subsea IMMR activities (described in Section 3.6.13) may be undertaken concurrently to maintain production within the Okha FPSO facility design constraints.

3.6.1.2 Major projects

Major projects involve refurbishing, modifying, or undertaking major maintenance on the Okha FPSO facility. Major maintenance may need to occur outside the Operational Area at a shipyard or safe location, during the life of the EP.

3.6.1.3 Floating production, storage and offloading facility sail-away

The Okha FPSO facility has retained its functionality as a self-propelled seagoing vessel. As a result, it can disconnect from its mooring during adverse weather condition or for the purpose of transiting to a shipyard or safe location for maintenance. Shipyard maintenance may occur during the life of the EP, in which case the FPSO will be disconnected.

The Okha FPSO facility is disconnected from and reconnected to the RTM in accordance with specific procedures. In preparation for disconnection, production is shut down and the topsides, risers and flowlines are depressurised via the flare system. The risers are depressurised to a nominated safe pressure before closing the isolation valves and riser emergency shutdown valve. Before being disconnected, the piping within the column and swivel are drained, flushed and purged, and the wells and xmas tree valves are shut in and where required, tested, as per WOMP requirements. When the FPSO is disconnected, approximately 5.5 m protrudes above sea level and has adequate navigational lighting.

Once disconnected and outside of the Operational Area, the Okha FPSO facility is no longer governed by the requirements of the EP but complies with regulatory maritime requirements.

The Okha FPSO facility is always maintained with minimum marine crewing requirements and in a condition such that it is prepared to disconnect. Criteria for disconnecting from the RTM in adverse weather include considering the predicted wind speed, wave heights and currents, and comparing these to the vessel's operational limits and its anticipated pitch, roll, heave and draft.

3.6.2 Process description

The Okha FPSO facility receives well fluids (crude oil, gas, and associated produced water [PW]) from the production wells for topside processing, including:

- separation of well fluids into gas, crude oil, and water
- gas compression and export
- PW treatment and discharge.

The FPSO is designed to process 60,000 bbl/day of oil and 100,000 bbl/day (18,000 m^3/day) of water, and the gas compression trains can produce up to 82 MMscfd of export gas and up to 60 MMscfd of lift gas. Processed crude oil is offloaded to offtake tankers periodically and export gas is routed to KGP.

The first processing stage is separating the well fluids in the high-pressure (HP) separator and test separator. Fluids are then further separated in the low-pressure (LP) separator, and the crude oil is subsequently cooled and discharged into the FPSO oil storage tanks. Gas evolved from the LP separator is fed to the cargo tanks to provide gas blanketing, and to the flash gas compression systems.

3.6.2.1 Gas processing system

The purpose of the gas processing system is to compress and condition the gas so it is suitable for use as fuel gas, lift gas and export gas. The gas processing system consists of multiple sub-systems, being:

- fuel gas system
- vapour recovery unit (VRU)
- flash gas compression system
- export gas compression system
- gas dehydration (triethylene glycol [TEG]) system
- lift gas compression system
- gas import system.

The produced gas is routed to the gas compression systems, the cargo tank vapour space or, alternatively during upsets, is directed to the flare system and combusted.

The flash gas from the LP separator gas is routed to the flash gas compression system or cargo tank vapour space under pressure control from the LP separator.

HP separator gas is routed to the export gas compression system for use as fuel gas, for injection, or for export.

3.6.2.2 Flare system

The Okha FPSO facility is equipped with a normally closed flare system, comprising of HP and LP headers. Flaring is only expected to occur during specific maintenance equipment events, specific process changes or process upset conditions, system depressurisation and emergency events, or in preparation for Okha FPSO facility disconnection. There is no routine continuous flaring.

Flare scrubbers collect liquid that may be directed to the flare headers – or have condensed in the flare headers – to prevent burning liquids from exiting the flare tips. LP and HP flare stacks exit the flare scrubbers and terminate at separate flare tips. The flare tips are closely aligned and are ignited by a flare ignition package.

The HP and LP flare tower are located towards the bow of the Okha FPSO facility and are around 82 m high above deck and around 98 m above sea level dependent on the Okha FPSO facility draft.

3.6.2.2.1 Normal operations

Woodside anticipates, based on system design and operational experience, that there will be no continuous flaring during normal operations. If there is a gas release to flare that cannot be accommodated by the recovery system, flow to that recovery system will stop and be redirected to the respective flare.

The flow of gas through each of the HP and LP flare systems is measured using separate flow meters. HP flare purge gas is recovered via the flash gas compressor and LP flare header purge gas/cargo tank flash gas is recovered via the VRU. There are no pilot gas supplies to the flare tips as flare ignition is achieved by an ignition pellet launch system. Purging of the flare stack (the piping from the flare drum outlet isolation valves) to the flare tips is achieved via a nitrogen gas supply.

3.6.2.2.2 Low pressure flare system

The LP flare is mostly used during planned but non-routine maintenance events that require manual depressurisation, or outages of the VRU or the flash gas compressor, which routinely recover gasses that would otherwise be flared.

Manual depressurisations will result in intermittent flaring of hydrocarbons, triggered by routine equipment maintenance, planned emergency shutdown testing, and depressurising of equipment and piping to remove the equipment from service.

3.6.2.2.3 High pressure flare system

During process upsets and activities, the process control valves on the main process equipment open to relieve excess pressure to the HP flare.

After an emergency trip of the topsides, the HP inventory in the topsides piping, trains and equipment are sent to flare to safely remove all HP gas sources and depressurise topsides equipment. The topsides equipment and piping are divided into isolatable sections, each with a dedicated fail open blowdown valve, which allows blowdown of the entire facility inventory. During this scenario, the HP flare tip would allow continuous flaring at a rate of 133 MMscfd (185,000 kg/hour).

On rare occasions, the fluid in the subsea flowlines/pipelines – which carry hydrocarbons from the subsea wells to the Okha FPSO facility – may need to be routed to the flare system to reduce pressure in the flowlines. The flowlines may need to be depressurised to:

- perform production flowline maintenance and critical leak-off testing
- prevent hydrate formation or remediate hydrate blockages in subsea flowlines
- manage flowline integrity limits
- suspend redundant pipelines/flowlines
- reduce the risk of hydrocarbon release during subsea maintenance/repair activities.

Another unusual scenario which could lead to flaring is the export gas system being unavailable. For example, if WC GEL, or the North Ranklin trunklines, or the KGP cannot convey or receive and process the export gas, then Okha may continue to operate its oil production. Excess gas that cannot be exported may be flared.

3.6.3 Produced water system

PW is comprised of produced formation water (a water reservoir below the hydrocarbon formation) and condensed water (water vapour present within gas/condensate that condenses when brought to the surface).

PW is separated out from the hydrocarbon components during the production process and goes through the PW system before being discharged to the marine environment. PW is discharged overboard via pipework from the ships starboard side below the water line – or via the slops overboard discharge line.

3.6.3.1 Produced water system description

The Okha FPSO facility was designed to process 18,000 m³ of PW per day. However, discharge rates are typically much lower, in 2024, the Okha FPSO facility discharged 8,182 m³ per day.

The PW system on the Okha FPSO facility comprises lines from either the test or HP separator to the PW hydrocyclones, the LP separator, PW pump, online oil-in-water (OIW) analysers, and either overboard discharge outlet or slops tanks. The PW stream comprises water recovered from the well fluid stream via either:

- the HP or test separators, which are then treated by the PW hydrocyclones and the PW flash vessel before discharge overboard, or
- the LP separator, which is then routed to the slops tank for first-stage gravity settling prior to overboard discharge.

The Okha FPSO facility PW system cleans the separated PW of oil and particulate contaminants and cools and de-gasses the PW. PW that is separated out in the HP and test separators is routed under level control to three hydrocyclones to remove any residual oil droplets and particulates. De-oiled water from these hydrocyclones is sent to the PW flash drum and any rejected oily water is fed to the LP separator. The flash drum has a hydrocarbon skimming facility to remove any residual oil that collects in the vessel. Skimmed oil is routed to the slops tanks. Separated gas from the flash drum is sent to the VRU via the LP flare.

Prior to discharge, an online OIW analyser monitors the OIW content and:

- if the OIW content is within specification, the PW is discharged directly overboard via the PW outlet

- if the OIW content is not within specification, the PW is automatically diverted to 4S produced water tank or the slops tank for further treatment before being discharged in accordance with the requirements of this EP.

3.6.4 Drainage system

The Okha FPSO facility has three drainage systems, described below:

- Non-hazardous open drain: collects drain fluids (e.g. rainwater) from non-hazardous areas and routinely disposes of them to the slops tanks. There are non-routine instances where the non-hazardous open drains could drain overboard, such as during a major deluge of rainwater or fire water.
- Hazardous open drain: collects drain fluids (e.g. oil-contaminated water), including the drain lines from the different levels of the RTM, and routes them to the slop tanks. The oily water in the slops tanks is separated by gravity and, after settling, it is monitored then discharged to the marine environment. There is provision to chemically treat slops water and/or transfer to different tanks if required. Oil recovered in the slops tank is routed to the cargo storage tank.
- Maintenance drain: four drains help remove large volumes of hydrocarbon vapour and liquids (used for maintenance purposes) from the compressor scrubbers and separators. These drains directly tie into the cargo tank header, and from there – depending on operational requirements – hydrocarbons are directed to the applicable cargo tank.

3.6.5 Cargo tanks

The Okha FPSO facility has 11 dedicated cargo tanks that are designed to receive and store crude oil directly from the topside process plant. The crude oil is fed from the topsides directly to the cargo tank by dedicated drop lines into the top of each cargo tank. The individual storage tanks vary in capacity, with a total operational storage capacity of 934,000 bbl of oil.

Two cargo pumps in the cargo pump room are used to transfer the crude oil to offtake tankers and redistribute crude oil around the cargo tanks. The pump valves are hydraulically operated from the CCR. During cargo export, both cargo pumps are available to achieve the required maximum offtake rate of 4,000 m^3/hour; however, only one pump is typically used during crude oil transfers.

The Okha FPSO facility is designed to load and discharge crude oil concurrently while maintaining double-valve segregation between incoming and exported crude oil. Cargo loading and discharge is controlled from the CCR.

3.6.6 Ballast system

The Okha FPSO facility seawater ballast system is used to counteract shear force and bending movement stresses on the Okha FPSO facility's hull, caused by loading and offtake crude oil in the vessel's storage tanks. Ballasting also controls the trim and heel of the vessel to ensure stability remains within the design limits.

Segregated ballast is carried in the fore and aft peak tanks of the Okha FPSO facility, and in six pairs of wing tanks arranged the entire length of the cargo tank area. The total capacity of the segregated ballast tanks is approximately 51,600 m^3. All ballast pumps are interconnected to allow flexible operation.

Ballast tanks are filled and discharged by ballast water pumps or gravity until the water level in the tank equalises with the draft level of the Okha FPSO facility.

The volumes of the main ballast tanks are controlled by two centrifugal pumps, which are located in the pump room and have their own sea chest. The pumps are connected to an overboard discharge line that ends approximately 0.5 m above the deepest water ballast line on the port side of the Okha FPSO facility.

3.6.7 Offloading system and offtake tanker mooring

The Okha FPSO facility has a tandem offloading system, providing handling facilities to non-dedicated tankers of up to Suezmax (150,000 T) size, in accordance with Oil Companies International Marine Forum requirements.

Before gaining Woodside's acceptance for offloading from the Okha FPSO facility, export tankers are assessed for their performance, quality (historic performance or incidents, documentation, systems and procedures) and operational compatibility with the facility.

Once accepted for offloading, the tanker must comply with requirements under the Okha Terminal Handbook, which contains rules, information and operations guidelines. The manual also describes the operations and approach to the PSZ and cautionary zone, and the rules that apply in each area. Approach to the facility is approved by the facility Offshore Installation Manager, then occurs under supervision of a Woodside Pilot in accordance with the International Maritime Organization (IMO) and International Maritime Pilots Association Guidelines.

While the offtake tanker is making its approach to the Okha FPSO facility, a support vessel runs the messenger rope to the stern -mounted mooring hawser, then assists in the berthing operation as directed by the Pilot, including transferring the hose to the offtake tanker connection. After the hose is connected, line-up for cargo operations begins under the direction of the Pilot, with communications continuously maintained between the offtake tanker, Okha FPSO facility and facility support vessel. Separation between the FPSO and the offtake tanker is maintained by the support vessel on static tow at the stern of the offtake tanker, which also controls movement of the tanker.

Crude oil is offloaded to the offtake tanker via a 16-inch diameter, 279 m long floating offtake hose. It comprises a heavily reinforced material in sections approximately 11.8 m long, with flanged and bolted connections between sections. This allows each section to be independently tested and replaced if necessary. A double dry-break coupling is fitted approximately 30 m from the offtake rail end of the hose, which will release at a predetermined tension. Minor oil spillage may occur into drip trays on the tankers when the hoses are separated; spillage is minimised by closing the valves in each half of the parted dry-break coupling and all oil is retained within the drip trays.

Offloading operations from the Okha FPSO facility take place as required, based on production rates. Offtakes are currently every six weeks and will decline in frequency as production rates drop over time. Trading tankers have an oil storage capacity of up to 120,000 m^3; a full loading operation is expected to take up to 30 hours. Initial loading rates are approximately 700 m^3/hr; however, once safety and override checks are satisfactory, the rate is increased to suit offtake tanker requirements, to a maximum loading rate of 4000 m^3/hour.

Offloading to tankers is monitored by the Okha FPSO facility's approved stress and stability program, which continuously calculates the stresses in the hull, based on measured liquid levels and densities within the tanks, and provides alarms if hull stresses exceed the allowable envelope.

The offtake hose is stored on a stern-mounted hose reel when not in use. This reduces the likelihood of hose damage during handling or impact by vessel.

3.6.8 Facility utility systems

3.6.8.1 Facility lighting

Artificial lighting on the Okha FPSO facility and support vessels at night is at levels required for safe conduct of operations and for various navigational sea and air safety requirements.

Other than for navigational and safety requirements, the main criterion for lighting design is to ensure there is effective lighting to maintain a safe working area, and safe movement around the vessel to enable start-up, inspection and testing. All access ways to emergency pathways must also have sufficient light for successful evacuation from the ship in the event of an incident. As a result, the illumination levels on the Okha FPSO facility were selected to balance the functional requirements while minimising spill illumination. For safe working practices, the current specification requires lighting levels to be 150 lux at one metre above the deck of the FPSO – being 9 m to 15 m above sea level, depending on the ship load – with a deck height of approximately 25 m.

The main area that requires direct lighting is the emergency escape from the aft mooring deck. This is always illuminated for the event of an emergency on board and is supplied in conjunction with other lighting required for safe vessel operations. Additional lighting is required periodically on cranes and around the stern of the Okha FPSO facility to allow safe lifting and loading and unloading of support vessels and trading tankers.

3.6.8.2 Heating ventilation and air conditioning

The heating, ventilation and air conditioning (HVAC) system comprises HVAC equipment, ductwork and associated pipework. It provides independent and inter-dependent subsystems with pressurised, conditioned, purged and exhaust air services to various areas, including accommodation and various modules. Various parts of the HVAC system can be operated on an 'as required' or continuous basis.

Mechanical exhaust systems supplement ventilation and HVAC systems, fume extraction systems, and are used in any negatively pressurised areas. Ozone-depleting substances are no longer used on the Okha FPSO facility and refrigerants associated with the HVAC system are managed by a licenced refrigerant authority.

3.6.8.3 Steam system

Two auxiliary boilers provide steam to the Okha FPSO facility's steam distribution system. They are configured for dual-fuel operation using gas and diesel or steam for atomising diesel. One boiler is sufficient to meet the steam requirements during normal production, cargo offtakes and utilities operating mode.

3.6.8.4 Cooling water and freshwater treatment systems

3.6.8.4.1 Seawater cooling system

There are three seawater cooling systems onboard the FPSO: a topsides seawater system, a seawater supply to air conditioning condensers, and engine room seawater supply. These are described below:

- The topsides seawater system, which provides seawater cooling to the central coolers (heat exchangers) where the cooling medium system transfers the waste heat from the machinery and utilities to the seawater. Maximum discharge rate of the system is 2,670 m³/hour.
- The air conditioning condensers seawater supply system, which includes two air conditioning cooling water pumps, used to supply cooling sea water to the air conditioning condenser before discharging overboard at a maximum discharge rate of 390 m³/hour. Either pump can be selected as duty or standby.
- The engine room seawater supply system, which includes three seawater cooling pumps that are configured as required to supply cooling water to the low-temperature freshwater coolers in the engine room of the Okha FPSO facility. Maximum discharge rate of each pump is 400 m³/hour.

The cooling water system uses two of three available lift pumps to draw and discharge seawater via coarse filter screens. A third pump is on standby. System lift pumps are submerged in dedicated suction caissons. Hypochlorite from the hypochlorite generator package is injected into the seawater suction systems to prevent marine growth (dosed at 2 ppm). Cooling water discharge occurs via a submerged outlet at a temperature of approximately 10ºC above ambient sea water temperature. Based on all the continuously discharging cooling water systems described above and other intermittent cooling systems, the typical volume of cooling water discharged is 57,000 m³/day. The maximum potentially discharged volume is 102,240 m³/day based on the integrity limit of the equipment.

3.6.8.4.2 Topsides cooling medium system

The topsides cooling medium water system on the Okha FPSO facility provides indirect cooling by recirculating chemically treated distilled water through a closed-loop system to remove heat from process and utility coolers. Cooling medium is circulated around the system by the cooling medium circulation pumps. The cooling medium pumps take suction from the cooling medium expansion vessel, which is located at the system high point. From the pumps, cooling medium is fed to the plate heat exchangers where it is cooled by the seawater system. From these exchangers the cooling medium is distributed to all users.

To prevent general corrosion, fouling, and blocking small passages in the heat exchangers, the cooling medium system is dosed as required with oxygen scavenger, nitrate, pH buffer, and biocide. Periodic system maintenance may require the sections in the cooling medium system to be drained, resulting in the discharge of water and residual treatment chemicals to the marine environment.

3.6.8.4.3 Marine freshwater system (hull system)

The freshwater cooling system (closed loop) comprises two separate systems: a high temperature (HT) and a low temperature (LT) cooling freshwater system. Cooling medium used in both the LT and HT cooling systems is a solution of fresh water and chemical corrosion inhibitor. The HT cooling water system provides cooling water to the main engine water jacket and heating water for the No. 1 and 2 freshwater generators. The LT cooling water system provides cooling to the bulk of the Okha FPSO facility engine room machinery, including the cold water side of the main engine jacket freshwater cooler and the auxiliary engines' cooling water jackets.

3.6.8.5 Seawater for auxiliary boiler exhaust gas scrubbing

Depending on the operation of the Okha FPSO facility, seawater may be used to scrub exhaust gas from the auxiliary marine boilers, to produce inert gas for cargo tank blanketing and other needs.

3.6.8.6 Inhibited seawater for subsea use

Seawater dosed with biocide may be injected into the subsea production system for periods of extended flowline shut-in, to prevent sulfur-generating bacteria and thus the build-up of hydrogen sulfide in the subsea system, then sent via the well services pump and production and test headers to the subsea flowline. Oxygen scavenger can also be injected into this flow stream.

The inhibited seawater is later produced to the topsides at the resumption of production, eventuating in slops or PW streams.

3.6.8.7 Potable water

Three freshwater generators provide water to the potable water tank and the distilled water tank. The system is designed to provide an adequate supply of boiler water plus a daily fresh water supply rated at 20 m³/day. Approximately 60 m³/day of brine is discharged (20 m³ per generator) as a result of this process.

A hydrophore system with pressurised tanks, pumps, filters, sterilisers and a calorifier provide the potable water distribution system for the accommodation facilities, with a pressurised hot and cold water supply. Fresh water can also be bunkered into the storage tanks using the freshwater bunker filling hose, located at the upper deck supply boat landing area.

3.6.8.8 Hydrocarbon blanketing and inert gas system

The Okha FPSO facility uses hydrocarbon gas as the primary medium for topping up and inerting the cargo tanks during loading, storage, production and offtake operations. The system is designed to eliminate the emission of cargo tank vapours, which would conventionally be cold vented through the cargo tank vents. The system prevents an explosive atmosphere in the cargo tanks by excluding air (oxygen) from the tanks and maintaining a 100% hydrocarbon blanket in the vapour space of the tanks.

Hydrocarbon gas is produced by the topsides LP separator and distributed to the cargo tanks via a dedicated header and associated tank branches. Hydrocarbon gas is also produced by the crude oil boiling off inside the cargo tanks. This gas is recovered by the VRU, which manages the tank pressures during normal operations.

Inert gas is produced on the Okha FPSO facility by the auxiliary gas-/diesel-fired boilers. If the hydrocarbon gas blanketing supply is unavailable for any reason (e.g. an oil process system trip, tank entry activity, purging of cargo tanks of air prior to loading with oil, sailing mode or riser disconnection), the inert gas system is brought online to preserve the inert gas blanket in the cargo tanks until the hydrocarbon gas blanketing system can be reinstated.

3.6.8.9 Fuel gas system

The fuel gas system supplies superheated fuel gas at two pressure levels: HP and LP. HP fuel gas is only required for the power generator gas turbines (refer to the section below). The consumers of LP fuel gas are the marine boilers, HP and LP flare header and gas compressor seal purges, triethylene glycol (TEG) regeneration package, and PW flash vessel gas outlet purge.

Total fuel gas consumption on the Okha FPSO facility is metered by a fuel gas flow transmitter. The average power consumption from maximum topsides power demand and others is approximately 108,250 sm³/day and is expected to be relatively constant throughout field life.

During the life of this EP, it is expected that the Okha FPSO facility will require fuel gas to be imported as the gas reserves of the CWLH fields decline (refer to Section 6.6.7).

3.6.8.10 Power generation

The main power generation for the Okha FPSO facility is supplied by four 12.5 MVA gas turbine driven generators. The entire Okha FPSO can consume 21 MW of power for normal operating conditions, which includes offtake operations. This power is normally supplied by two online gas turbines, which allows the remaining two generators to be out of service for maintenance or on standby.

The gas turbine driven generators operate on fuel gas during normal operations, but can run on diesel during process upsets, facility start-up, or when bringing a turbine back into service after maintenance. When the FPSO is off station in sailing mode, power is generated and supplied by the three 900 kW diesel generators located in the engine room.

Emergency power is supplied by a single 880 kW emergency black-start diesel generator. This emergency generator supplies power to the Okha FPSO facility's emergency switchboard, which then provides power to auxiliary equipment such as pre-lube and starting air supply for the essential generators. The emergency generator starts automatically if mains power is lost. Two independent uninterrupted power supply systems, which are physically separated from each other, provide redundant temporary power supplies for SCC regardless of the state of emergency (essential or main generation).

3.6.8.11 Safety features and emergency systems

Various safety features and emergency systems were integrated into the design and operation of the Okha FPSO facility to manage safety risk and associated major environment risk. The safety features and emergency measures in place are listed in the Okha FPSO Facility Safety Case and, where relevant to the management of unplanned environmental impacts, safety features are described as controls in Section 6 of this EP.

Fire suppression foam systems are located on the helideck, main deck and engine and pump rooms of the Okha FPSO facility. These systems are tested in compliance with the Okha FPSO Facility Safety Case, typically annually. Location, storage volumes and types of foam stored on the facility that supply the systems are provided in Table 3--8.

Table 3--8: Firefighting foam quantities and locations

Location	Volume	Product
Helideck	400 L	1% AFFF Tridol C6 S1
Cargo Decks	7,000 L	1% AFFF Tridol C6 S1

3.6.8.12 Sewage and putrescible wastes

Sewage from the ablution areas is macerated and treated and disposed of to the ocean via the hull discharge line (below the water line).

Putrescible waste (principally food scraps) is ground to <25 mm diameter and disposed to the ocean. If the macerator is unserviceable for any reason, waste is bagged and transported to shore for disposal as domestic waste.

3.6.9 Lifting operations

The Okha FPSO facility has three rotating pedestal cranes and one overhead crane, as well as numerous local handling/lifting equipment. Dedicated laydown areas for materials, chemicals and provisions are located to optimise lifting/handling and reduce manual handling. The subsections below give further details on the types of lifting activities and cranes used.

3.6.9.1 Routine lifting from facility support vessels

Routine lifting operations primarily include transferring stores and equipment from a support vessel to the main or stores laydown areas. Support vessels are equipped with a dynamic positioning (DP) system for holding station during lifting operations. The types of lifted equipment vary, but generally include containers or skips of various sizes. Supplied chemicals are also routinely lifted, with the largest volume of transfer via container approximately 3.8 m^3.

After offloading from the supply vessel is complete, the Okha FPSO facility backloads to the supply boat any items to be returned to shore, e.g. empty containers or skips containing waste for onshore disposal.

3.6.9.2 Lifting around the facility

Once lifted to the laydown areas, repositioning to other locations may be required for stores, equipment, ISO containers, or waste bins. Occasionally, a non-routine piece of equipment may need to be lifted, in which case it is packed into a container or an approved lifting frame.

3.6.9.3 Operational lifting (non-crane based)

Operational lifting may also require rigging, chain blocks, or electric hoists to be used. This lifting is primarily undertaken for maintenance or repairs and involves lifting and removing equipment such as valves, spools or motors.

3.6.10 Marine diesel system and bunkering

The Okha FPSO facility marine diesel system comprises three main interconnected systems: storage and transfer system, purification and service system, and equipment (consumer) supply systems.

Low-sulphur diesel is bunkered to the Okha FPSO facility port and starboard bunker tanks from a supply vessel via a bunker hose reel that is provided to the supply vessel with the use of the FPSO aft crane. Bunkering is planned to only occur during daylight hours.

The diesel is purified and held in the designated service tank before being distributed for use to all on-board diesel demands, fuelled and fired equipment. Diesel from the settling tank is transferred via the purifiers to the diesel service tank, from where (if required) it can be used for the topsides gas turbines, generator engines, the main engine and/or supplied to the well service pump for valve equalisation, subsea dehydration and well services. Outlet valves from the diesel tanks are fitted with quick-closing valves remotely operated from the FPSO's quick closing valve activation points.

Diesel storage tanks are detailed in Table 3-9.

Table 3-9: Diesel storage tank volumes

Diesel oil tank description	Volume (m^3)
Bunker tank No 3 (port)	1,230
Bunker tank No 2 (starboard)	909
Bunker tank No 1 (starboard)	527
Overflow tank	47.7
Settling tank No 1	108
Service tank No 2	93
Two day tanks (for fire pumps)	6 (each)
One day tank (for emergency generator)	6

3.6.11 Bulk hydrocarbon inventories

The main bulk hydrocarbon inventories associated with major Okha FPSO facility topsides process equipment are summarised in Table 3-10.

Table 3-10: Indicative hydrocarbon bulk liquid inventories of major process equipment

Relevant component	Liquid volume (m^3)
HP separator	113.5
Test separator	26.3
LP separator	31.2
First stage export gas compression	4.1
Export gas compressor first stage suction scrubber	4.1

3.6.12 Chemical usage during operations

Chemicals are used on the Okha FPSO facility for various purposes and can be divided into three broad categories, being:

- operational process chemicals
- operational non-process chemicals
- facility maintenance chemicals.

These are described in the below subsections.

3.6.12.1.1 Operational process chemicals

A process chemical is an active chemical added to a process or static system to provide functionality when injected into produced fluid, utility system streams, or for pipeline treatment. Examples include corrosion inhibitors, biocides, scale inhibitors, demulsifiers, glycols, oxygen scavengers and hydrate inhibitors. These chemicals may be present in routine or non-routine discharge streams from the Okha FPSO facility.

3.6.12.1.2 Operational non-process chemicals

Non-process chemicals are those that do not fall into the category described above. They may be required for operational reasons (e.g. maintenance or intervention activities) and once used, may be intermittently discharged or have the potential to be discharged. Examples include subsea control fluids and dyes.

3.6.12.1.3 Facility maintenance chemicals

Non-operational chemicals include those required for general maintenance or housekeeping activities and are critical for overall maintenance of the Okha FPSO facility and its equipment. These may include paints, degreasers, greases, lubricants, domestic cleaning products, and chemicals used for special tasks such as laboratory testing and analysis. Maintenance chemicals generally present negligible risk to the environment because they are either not discharged when used (e.g. paint) or are used intermittently and discharged in low volumes (e.g. domestic cleaning products).

3.6.12.1.4 Indicative chemical inventories

An indicative list of bulk chemicals commonly used on the Okha FPSO facility, and estimated storage quantities, is summarised in Table 3-11. Chemicals may be required for non-routine activities that are not described in this EP; in these instances, they will be assessed in accordance with Woodside's chemical selection procedure and management of change process prior to use.

Table 3-11: Indicative bulk inventories of chemicals

Material	Storage method	Approximate storage capacity (m^3)
Biocide	Dedicated tank – chemical injection skid	9
Scale inhibitor	Dedicated tank – chemical injection skid	8
Emulsion breaker	Dedicated tank – chemical injection skid	13
Reverse emulsion breaker	Dedicated tank – chemical injection skid	11
TEG	Dedicated tank	10
Subsea control fluid	Fluid stored in intermediate bulk containers	9
Fire fighting media – AFFF 1%	Dedicated tanks - helideck	0.8
Fire fighting media – AFFF 1%	Dedicated tanks – main deck	6.8
Fire fighting media – flourine free 2% HiEx	Dedicated tank and drums – engine and pump rooms	3.2

3.6.13 Greenhouse Gas Emissions

The sources of greenhouse gas (GHG) emissions associated with the Petroleum Activity are shown in Table 3-12. GHG sources that are not part of the Okha FPSO facility (e.g. onshore processing emissions) are included for completeness. In the context of this EP, the emissions are classified as direct and indirect emissions.

Table 3-12: Direct and indirect GHG emissions sources associated with Okha production

Emission type	Source	Location	Jurisdiction	Process
Direct	Okha FPSO facility process	Offshore	Commonwealth	GHG emissions associated with fuel, flares, fugitives and process vents
Indirect	Support operations	Offshore	Commonwealth	GHG emissions associated with engines and fugitives on vessels and helicopters
	Onshore processing*	Onshore	State (WA)	GHG emissions associated with venting reservoir CO_2, combustion of gas as fuel, flares and fugitives associated with processing gas to products such as LNG, liquefied petroleum gas (LPG), condensate and domestic gas
	Transport	Transit	Subject to consumer location	GHG emissions associated with transport of products to market.
	Refining of oil. Regassification of gas. Distribution and combustion of oil and gas by third party user	Market	Subject to consumer location	GHG emissions associated with combustion of products as part of power generation and other energy products within the final market

**ISO 19694:2021 defines indirect GHG emissions as GHG emission that is a consequence of an organisation's operations and activities, but that arises from GHG sources that are not owned or controlled by the organisation. For the purposes of this EP the "organisation" is the Okha FPSO facility and therefore onshore processing, and support operations are considered indirect emissions sources.*

3.7 Inspection, maintenance, monitoring and repair activities

Subsea infrastructure is designed to not require any significant degree of intervention. However, inspection, monitoring and maintenance is undertaken to ensure the integrity of the infrastructure and identify any issues before they present a risk of loss of containment. If issues requiring repair are identified, these are also conducted under this EP.

Subsea IMMR activities are typically undertaken from a relevant vessel (Section 3.8.2), via an ROV and/or divers. IMMR activities may also require physical interactions with the seabed, such as deploying frames/baskets, installing mattresses, and wet-parking tooling and infrastructure. Typically, IMMR campaigns will not exceed a total seabed disturbance of 100 m². IMMR activities may also result in planned releases of hydrocarbons and chemicals to the marine environment. Where relevant, typical seabed disturbances and releases of fluids to the marine environment are described in subsequent sections.

The duration of these individual activities has not been provided, as that depends on the campaign. Woodside will endeavour to package IMMR activities together with other facilities' scope to minimise the number of IMMR campaigns. Each IMMR campaign may have multiple activities occurring within it and would typically occur for a total duration of approximately one week, with exact duration dependent on the nature of the specific IMMR scope of work.

3.7.1 Inspection

Inspection of subsea infrastructure is the process of physical verification and assessment of components in order to detect changes to the as-installed location and condition by comparison to initial state following installation and previous inspections. Details of typical subsea infrastructure inspections/surveys and indicative frequencies are provided in Table 3-13. Scope and frequency of subsea equipment (operational, suspended and redundant) are determined using a risk-based inspection (RBI) methodology and associated plans. RBI is commonly used within the industry as a method for determining inspection frequencies (Energy Institute, 2009; DNV, 2019).

During planned inspections, anomalies may be identified by ROV, for example discharges or bubbling which may indicate fugitive emissions. In accordance with the Subsea and Pipelines Integrity Management Procedure, the anomaly is identified and assessed for scale during the inspection by performing visual bubble estimates or bubble measurements, where it is feasible to do so. The anomaly and its scale are noted in the anomaly/inspection report and recorded in Woodside's centralised Inspection Database. The anomaly is then assessed to determine future monitoring and/or corrective actions to address the anomaly.

Table 3-13: Typical inspection activities and frequency

Inspection activity	Relevant infrastructure	Purpose	Approximate frequency
General visual inspections	All subsea infrastructure	Check general infrastructure integrity.	Varies depending on infrastructure and RBI output, typically every 4 years.
Close visual inspections	All subsea infrastructure	Investigate certain subsea infrastructure components.	Varies depending on infrastructure and RBI output, typically every 4 years.
Cathodic protection	All subsea infrastructure	Check the system is protected against corrosion.	Varies depending on infrastructure and RBI output, typically every 4 years.
Wall thickness surveys	Pipeline, flowlines, production/gas manifolds (if required)	Monitor the condition of subsea infrastructure. (i.e. ultrasonic testing).	Triggered inspection only, risk based.

Inspection activity	Relevant infrastructure	Purpose	Approximate frequency
Side scan sonar (SSS), multibeam echo sounder (MBES) and sub-bottom profiler (SBP) (chirp)	Pipeline, flowlines and wellheads	Identify buckling, movement, scour and seabed features. Low frequency/intensity signals.	Varies depending on infrastructure and RBI output, typically every 4 years.
Non-destructive testing	Pipeline	Evaluate the properties of material/items using electromagnetic, radiographic, acoustic resonance technology, ultrasonic or magnetic equipment.	Typically every 12 years.
Seabed sampling surveys including minor grabs/cores	N/A	Identify benthic fauna sediment, etc. Grabs/cores are typically 0.1 m^3 per sample.	Varies dependent on operational requirements.
Water sampling surveys	All subsea infrastructure	Determine water quality around pipelines.	Varies dependent on operational requirements.
Anode sampling	All subsea infrastructure	Take samples of anode materials for testing.	Varies depending on infrastructure and RBI output, typically every 4 years.
Marine growth sampling	All subsea infrastructure	Take samples of marine growth for testing.	Triggered only, once every 5 to 25 years.
Laser surveys	All subsea infrastructure	Conduct dimensional checks on spools etc. and measure proximity.	Triggered inspection only, risk based.

3.7.2 Monitoring

Subsea infrastructure monitoring involves an assessment of physical processes and chemical environments that subsea components are exposed to. Such monitoring is required to determine if and when damage may occur, and (where relevant) predict the rate or extent of that damage.

Monitoring activities may include pressure monitoring, temperature monitoring, fluid consumption, process composition testing (via topside sampling points), corrosion probes (located topside), metocean and seismic monitoring, cathodic protection testing, and hydraulic fluid usage.

3.7.3 Maintenance

Maintenance activities on subsea infrastructure are required at regular or planned intervals to prevent deterioration or integrity failure. Maintenance activities may include cycling and actuating valves, flushing chemical/hydraulic fluid lines, and pressure/leak testing. Table 3-14 outlines typical maintenance activities that may be carried out during the Petroleum Activity.

Table 3-14: Typical maintenance activities and frequency

Maintenance activity	Relevant subsea infrastructure	Purpose	Approximate frequency
Cycling of valves via control system	Well/manifolds	Test functionality of technical integrity valves and production/annulus chokes.	Typically every 6 months.
Marine growth removal	Production/gas lift flowlines, risers, gas relief valves, manifolders and retrieval components (e.g. chokes)	Reduce weight, remove obstructions or gain visual access.	Based on outcomes from visual inspections and marine growth trends on other infrastructure in the region.
Flushing of chemical hydraulic fluid lines	Hydraulic fluid lines	For repair scenarios.	When required.
Leak and pressure testing	All subsea infrastructure	Test integrity of subsea infrastructure.	Following installation of subsea infrastructure components after a repair of intervention prior to return to service.
Sediment relocation	All subsea infrastructure	Facilitates repair or inspection activities.	When required.

3.7.3.1 Cycling of valves

The Okha facility subsea infrastructure contains valves that are operated remotely from the Okha FPSO facility (using subsea control fluid), and manually operated valves that require direct manipulation by ROV. Regular opening and closing of subsea valves ensures mechanical elements remain lubricated and do not seize, which may occur if left untouched for extended periods of time. Valve cycling is undertaken annually for critical valves.

There are no planned discharges associated with ROV-operated valve cycling.

3.7.3.2 Marine growth removal

Due to the relatively high rate of marine growth on the NWS, excess growth may need to be removed before undertaking many subsea IMMR activities. An ROV or a diver is used for this activity; Table 3-15 lists the different techniques used.

Table 3-15: Marine growth removal methods

Activity/equipment	Relevant subsea infrastructure
Water jetting	Uses HP water to remove marine growth
Brush systems	Uses brushes attached
Acid (typical sulfamic acid)	Chemically dissolves calcium deposits

3.7.3.3 Flushing

During the flowline lifecycle, there may be a need to conduct flushing for a variety of reasons (e.g. inspection, maintenance, repair, facilitate modifications or to remove hydrocarbons).

3.7.3.4 Pressure and leak testing

Pressure testing is completed to test the integrity of subsea infrastructure and isolations and identify any leaks. Pressure is usually applied to the component from the Okha FPSO facility but can also be applied via a downline or ROV from a support vessel.

Pressure in the isolated section of flowline or subsea component is monitored to check for any drop in pressure, and/or visually inspected to determine the location of any leaks.

A typical release of chemical dye during leak testing is estimated to be two litres. The worst case is estimated to be approximately 10 litres. This volume may already be pre-dosed within the subsea control fluid, in which case the chemical dye component within the total chemical volume will remain approximately 10 litres.

3.7.3.5 Pipeline pigging operations

The WC GEL was designed to operate in a non-corrosive condition; thus, regular maintenance and cleaning pigging of the WC GEL is not required. Therefore, permanent pig launchers or receivers are not part of the subsea infrastructure.

Pigging is not planned to be required prior to EOFL (anticipated currently for 2031).

3.7.3.6 Sediment relocation

If sediment builds up around subsea infrastructure, an ROV-mounted suction pump/dredging unit may be used to move small amounts of sediment in the immediate vicinity (i.e. within the existing footprint). This allows inspection/intervention works to be undertaken. Sediment relocation typically results in minor seabed disturbance and some localised turbidity.

3.7.4 Repair

Repair activities are required when a subsea system or component is degraded, damaged, or has deteriorated to a level outside acceptance limits. Damage sustained may not necessarily pose an immediate threat to continued system integrity but may present an elevated level of risk to safety, environment, or production. Typical subsea repair activities include, but are not limited to:

- SCM replacement/upgrade/change out
- hydraulic flying lead replacement
- electrical flying lead replacement
- subsea controls (electrical and/or hydraulic) distribution unit installation
- pipeline or spool support (e.g. gravel, grout bag and/or concrete mattress placement)
- spool disconnection and/or replacement
- annulus/production choke change-out
- tree cap replacement
- umbilical and/or umbilical jumper replacement
- riser or flowline replacement, including the placement of sandbags for temporary laydown of infrastructure during replacement activities.
- scour prevention installation (e.g. gravel, grout bags and/or concrete mattress placement – typically isolated placement around scour)
- well choke change out
- hot stab change out
- anode skid installation, anode continuity cable replacement/installation.

When equipment is replaced, it may remain in-situ or be removed from the field. This is assessed on a case-by-case basis based on the level of risk associated with recovering the equipment. The location of all subsea infrastructure items is recorded as part of the ROV as-left survey and input into a database for the inventory associated with each title. The inventory is used to track equipment on the seabed to enable planning for future removal.

3.7.5 Chemical usage during inspection, maintenance, monitoring and repair activities

3.7.5.1 Subsea chemical usage

Planned chemical discharges may occur during various subsea IMMR activities. However, these are either discharged in small volumes, or discharged intermittently during the IMMR activity. Chemicals that may be discharged include, but are not limited to:

- hydrate control – monoethylene glycol (MEG) and TEG are used for hydrate control
- scale inhibitor – scale inhibitor manages and prevents scale build-up within subsea infrastructure
- biocide – biocides prevent bacterial growth in pipelines that may cause corrosion
- dye – chemical dyes incorporated in the subsea control fluid identify the source of a leak
- acid – sulfamic (or equivalent) acid removes calcium deposits
- oxygen scavenger – oxygen scavenger de-oxygenates the pipeline to prevent corrosion and aerobic bacterial growth
- surfactant – surfactants remove water and organic deposits from pipelines
- grout – the material used in grout, mattresses and rock is typically concrete-based
- subsea control fluid – a water-glycol based control fluid. The subsea control system is an open-loop system that releases hydraulic fluid during valve functioning and releases small quantities across control valves during steady-state operations. The control fluid used on the Okha FPSO facility subsea systems is Oceanic HW525P.

3.7.5.2 Typical discharges during inspection, maintenance, monitoring and repair activities

Minor chemical discharges are expected during subsea IMMR activities (e.g. during pressure/leak testing or flushing). Where possible, flushing is performed before a subsea component is disconnected, to reduce residual hydrocarbon or chemical releases to the environment upon disconnection. The flushing chemicals used for this activity are supplied from either the Okha FPSO facility or a chemical package via a support vessel. Where possible, flushed fluids will return to the Okha FPSO facility and be processed and treated through the production system. Table 3-16 lists typical discharge volumes during different IMMR activities.

Table 3-16: Typical discharges during inspection, maintenance, monitoring and repair activities

Activity	Typical discharge
Pressure/leak testing and investigation	Investigation initiated if subsea hydraulic consumption is typically >130 L per day.
Valve functioning	Typical releases of approximately 0.5 L to 6 L subsea control fluid per valve actuation per Xmas tree and manifold. Facility shutdown (cyclone disconnect) release of approximately 170 L subsea control fluid per shutdown across control system (estimated one to two shutdowns per year). Standard facility shutdown release of approximately 170 L subsea control fluid per shutdown across control system (estimated eight to 10 shutdowns per year).
Flushing	Typical release of residual hydrocarbon and/or, volumes dependent on injection port size, component geometry and pumping rates. This will be subject to an ALARP determination for the activity, as per normal practice.
Hot stab change out	Typical release of hydrocarbons or subsea control fluid <10 L.
SCM change out	Typical release of acid approximately 400 L and a release of subsea control fluid of approximately <10 L.
Jumper and umbilical replacement	Typical release of hydraulic fluid, MEG and corrosion inhibitor, estimated to be <10 L each.
Well choke / Production Choke Valve (PCV) change out	Release of hydrocarbons (<50 L) and release of MEG (< 280 L). Risk of loss of subsea flowline containment during change-out (<50 L hydrocarbons)
Flowline or spools repair, replacement and recovery	Typical release of residual hydrocarbon and/or other chemicals depends on equipment configuration and flushing ability. This will be subject to an ALARP determination for the activity, as per normal practice.

3.8 Support operations

Support operations include activities related to use of vessels and helicopters.

Vessels are used in a support capacity for transferring material and equipment to and from the Okha FPSO facility, as well as being used for project field work such as IMMR of subsea infrastructure.

Helicopter use is the primary mode of transporting crew and/or urgent freight to and from the Okha FPSO facility and are also the preferred means of evacuating personnel in an emergency.

3.8.1 Facility support vessel

Various facility support vessels (Figure 3-6) are used (depending on schedules and availability) to transfer material and equipment to and from the Okha FPSO facility. Specifications of a typical facility support vessel are presented in Table 3-11.

The current schedule is for a vessel to resupply the Okha FPSO facility every fortnight, and as required for offtake support. While in the field, the vessel also backloads materials and segregated waste for transport to the King Bay Supply Facility in Karratha and carries out standby duties during activities such as helicopter operations and working over the side, as required.

Figure 3-6: Indicative facility support vessel

Table 3-17: Indicative facility support vessel specifications

Attribute	Details
Type	Facility support vessel
Length overall	90 m
Breadth	20 m
Draft	7.5 m
Dead weight tonnage	5,500 tonnes
Accommodation	Berthing for 25 personnel
Fuel type	Marine diesel
Fuel capacity	Total inventory: 950 m^3 Largest tank: 120 m^3

3.8.2 Inspection, maintenance, monitoring and repair support vessels

Vessels used to support routine IMMR activities may range in length from 35 m to 120 m and include multi-purpose support vessels and dive support vessels, depending on the requirements of the IMMR activity. Infrequently, there may be a requirement for more than one vessel (e.g. for a repair campaign). Table 3-18 shows the typical specifications for a typical IMMR vessel.

IMMR vessels can operate 24 hours a day during campaigns. The length of time vessels are in the Operational Area may vary depending on the nature of the IMMR activity, operational requirements, vessel schedules, capability and availability. Maintenance and repair activities may result in additional vessel time, depending on the scale and complexity of the work scope, but such activities are expected to be infrequent.

Typical IMMR vessels use a DP system in combination with satellite navigation to allow manoeuvrability, maintain position and avoid anchoring when undertaking works, due to proximity of subsea infrastructure. IMMR vessels are equipped with anchors which may be deployed in the event of an emergency. IMMR vessels will use marine diesel oil or marine gas oil and will be provisioned in port. There will be no refuelling on site.

During IMMR activities, other vessels such as uncrewed surface vessels (USV) (Section 3.8.3), ROVs and autonomous underwater vessels could also support activities. The ROV can be fitted with various tools and camera systems that can be used to capture records of the activities and surrounds. An ROV and AUV is typically deployed from a vessel using a crane or an A-frame.

Table 3-18: Indicative inspection, maintenance, monitoring and repair vessel specifications

Attribute	Detail
Type	Operational support vessel / IMMR vessel
Length (overall)	93 m
Breadth	20 m
Draft	8 m
Gross tonnage	5000 Te
Accommodation	100
Fuel type	Marine diesel
Fuel capacity	Total inventory: 950 m^3 Largest tank: 120 m^3

3.8.3 Uncrewed surface vessel

The uncrewed surface vessel (USV) will be remotely controlled from an onshore remote operations centre (ROC) in Australia which is staffed 24 hours a day whilst the vessel is in transit or undertaking activities. Key roles in the ROC mirror those on a usual vessel management team and include a Vessel Master, Offshore Manager and ROV Supervisor.

USVs are designed with multiple forms of high speed and reliable communication systems to allow connection to the ROC and provide redundancy in the case of disconnection during operations, including an independent emergency low bandwidth satellite communications system. The vessels are also fitted with 360-degree cameras monitored by the remote vessel master supporting safe navigation. In the unlikely event of a communication failure between the ROC and USV, the USV Emergency Response Plan is activated. The ERP includes process steps for attempting to regain control and issuing alerts or warnings to local authorities or other marine users. Depending on the type of communication loss, available controls may include, but are not limited to, deployment of a physical anchor, mobilisation of a standby vessel or physical retrieval.

USVs are assessed by Woodside Marine (Section 7.7.2.4) to review compliance with marine laws, flag requirements, vessel class and Woodside's safety and environment requirements.

Because there are no facilities to support human occupancy on USVs, emissions and discharges are typically limited to cooling water and combustion of marine diesel. The vessel is equipped with bilge monitoring systems to monitor the bilge tanks for hydrocarbons (such as leaks from engine machinery spaces or from marine diesel tanks), and where detected the bilge pumps will auto disable and the vessel will be required to immediately return to port. USV's have a maximum speed of 10 knots and may be equipped with a built-in work class ROV with the ability to deploy and retrieve equipment from the seabed. Key parameters for a typical USV are presented in Table 3-19.

Table 3-19: Indicative uncrewed surface vessel parameters

Attribute	USV (small example)	USV (large example)
Draft (max)	6 m	2.6 m
Length	23.9 m	12 m
Displacement (Gross Tonnage)	~340 t	14 t
Propulsion System	Diesel-electric hybrid	Diesel-electric hybrid
Total fuel volume	74.1 m^3	3.3 m^3

3.8.4 Helicopters

Helicopter use is the primary mode of transporting crew and/or urgent freight to and from the Okha FPSO facility and are also the preferred means of evacuating personnel in an emergency. Helicopters are not expected to be refuelled offshore.

4. DESCRIPTION OF THE EXISTING ENVIRONMENT

4.1 Overview

In accordance with Regulations 13(2) and 13(3) of the Environment Regulations, this section describes the existing environment that may be affected by the activity (planned and unplanned), as described in Section 4, including details of the particular relevant values and sensitivities of the environment, which were used for the risk assessment.

The EMBA is the largest spatial extent where unplanned events could have an environmental and/or socio-cultural consequence on receptors. For this EP, the EMBA is the potential spatial extent of multiple hydrocarbon spill scenarios described in Section 6.7. The ecological impact thresholds used to delineate the EMBA are defined in Table 4-1. The worst-case credible spill scenario for this EP is from a loss of well containment. The EMBA also includes areas that are predicted to experience shoreline contact with hydrocarbons above threshold concentrations.

Woodside recognises hydrocarbons may be visible at lower concentrations than the ecological impact thresholds defined in Table 4-1. These visible hydrocarbons have potential to cause socio-cultural impacts. In respect of this, the EMBA also includes hydrocarbon thresholds where socio-cultural impact could occur. The EMBA is shown in Figure 4-1.

The EMBA does not represent the predicted coverage of any one hydrocarbon spill nor depict a slick or plume at any particular point in time. Rather, the EMBA represents a composite of many theoretical spill paths, integrated over the full duration of simulations under various metocean conditions.

Table 4-1: Hydrocarbon spill thresholds used to define the environment that may be affected for surface and in-water hydrocarbons

Hydrocarbon type	Ecological hydrocarbon thresholds[1]	Socio-cultural hydrocarbon thresholds[1]	Planning area for scientific monitoring
Surface	10 g/m² This represents the minimum oil thickness (0.01 mm) at which ecological impacts (e.g. to birds and marine mammals) are expected to occur.	1 g/m² This represents a wider area where a visible sheen may be on the surface and, therefore, the concentration at which socio-cultural impacts to the visual amenity of the marine environment may occur. However, it is below concentrations at which ecological impacts are expected to occur. This low exposure value also establishes the planning area for scientific monitoring (NOPSEMA guidance note: A652993, April 2019 [NOPSEMA, 2019]).	
Dissolved	50 ppb This represents potential toxic effects, particularly sublethal effects to highly sensitive species (NOPSEMA, 2019). As dissolved hydrocarbons are within the water column and not visible, impacts to socio-cultural receptors are associated with ecological impacts. Therefore, dissolved hydrocarbons at this threshold also represent the level at which socio-cultural impacts may occur.		10 ppb This low exposure value establishes the planning area for scientific monitoring (based on potential for exceedance of water quality triggers) (NOPSEMA, 2019). This area is described further in Appendix G. In the event of a spill, the Director of National Parks will be notified of AMPs that may be contacted by hydrocarbons at this threshold Table 4-15.
Entrained	100 ppb This represents potential toxic effects, particularly sublethal effects to highly sensitive species (NOPSEMA, 2019). As entrained hydrocarbons are within the water column and not visible, impacts to socio-cultural receptors are associated with ecological impacts. Therefore, entrained hydrocarbons at this threshold also represent the level at which socio-cultural impacts may occur.		

Hydrocarbon type	Ecological hydrocarbon thresholds[1]	Socio-cultural hydrocarbon thresholds[1]	Planning area for scientific monitoring
Shoreline	100 g/m² This represents the threshold that could impact the survival and reproductive capacity of benthic epifaunal invertebrates living in intertidal habitat.	10 g/m² This represents the volume where hydrocarbons may be visible on the shoreline but is below concentrations at which ecological impacts are expected to occur.	N/A.

[1] Further details, including the source of the thresholds used to define the EMBA in this table, are provided in Section 6.7.2.2.

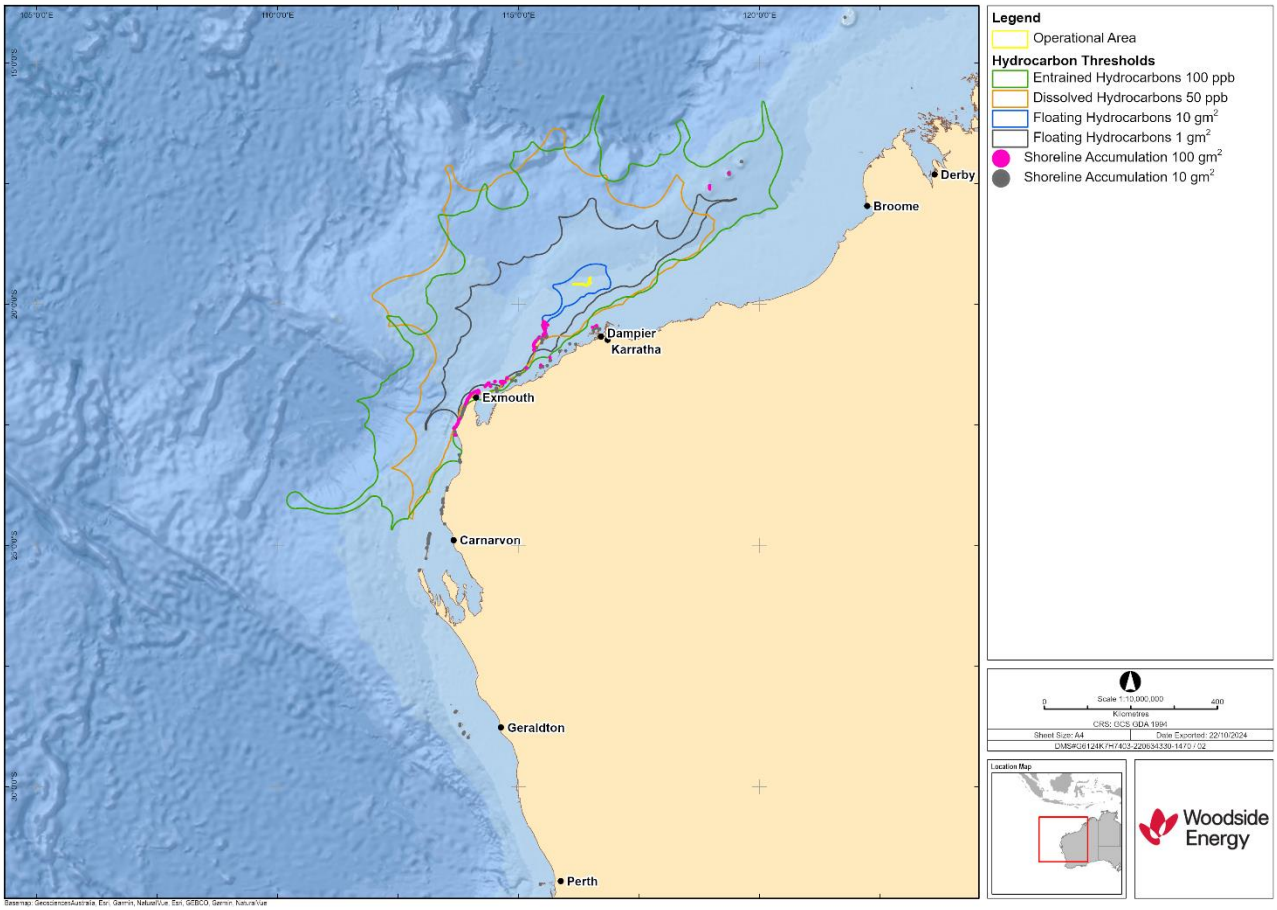


Figure 4-1: Hydrocarbon thresholds which, combined, represent the environment that may be affected by the Petroleum Activity

4.2 Regional context

The Operational Area is located in Commonwealth waters within the North-west Marine Region (NWMR), as defined under the Integrated Marine and Coastal Regionalisation of Australia (v4.0) (Commonwealth of Australia, 2006) in water depths of approximately 80 m (at the Okha FPSO facility) to 125 m (at the western end of the WC GEL). Within the NWMR, the Operational Area lies within the NWS Province (Figure 4-2). The EMBA also extends through the NWMR and into the South-west Marine Region (SWMR).

Woodside's Existing Environment (Appendix C of the accepted Julimar Operations EP, which is available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139) summarises the characteristics for the relevant marine bio-regions.

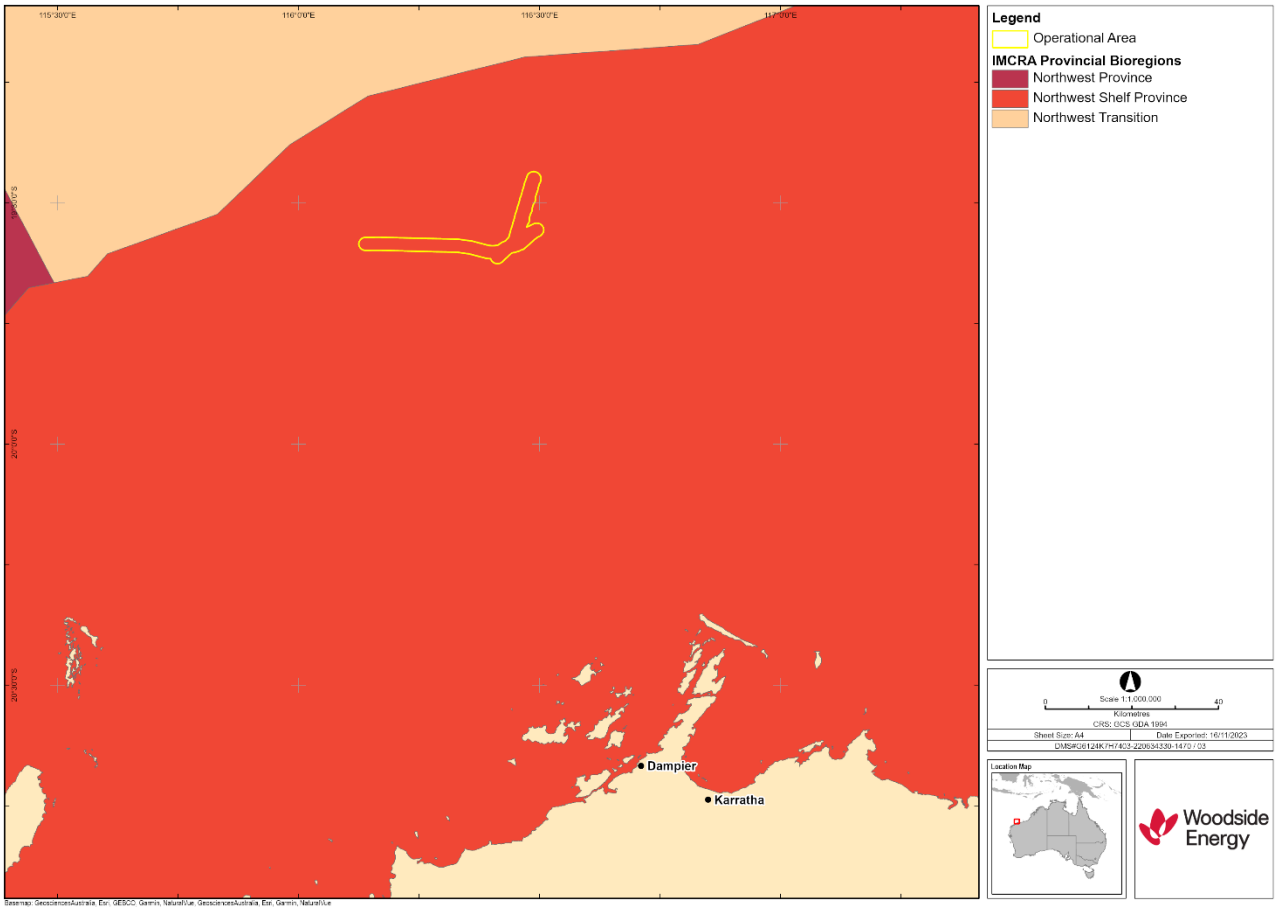


Figure 4-2: Location of the Operational Area and relevant marine bio-regions

4.3 Matters of national environmental significance (*Environment Protection and Biodiversity Conservation Act*)

Table 4-2 summarises the MNES overlapping the Operational Area and EMBA, according to Protected Matters Search Tool (PMST) results (Appendix C). The EPBC Act PMST is a general database that identifies areas in which protected species have the potential to occur. The PMST conducts searches to determine the presence/absence of MNES based on a conservative grid-based search function. Marine areas (>30 km) from the coast use 32 km × 32 km grid cells to determine the spatial overlap with listed MNES. Accordingly, the PMST report (Appendix C) can indicate the presence of MNES that do not actually intersect with the Operational Area or EMBA. To ensure the accurate consideration of any impacts from the Petroleum Activity on MNES, shapefiles (provided by Commonwealth Department of Climate Change, Energy, Environment and Water [DCCEEW]) were assessed using geographic information system software to verify the presence and distance from the Operational Area to key areas relevant to MNES, such as biologically important areas (BIAs) and habitat critical to the survival of the species.

Additional information about these MNES is provided throughout this section and described in detail in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

Table 4-2: Summary of relevant matters of national environmental significance identified by the *Environment Protection and Biodiversity Conservation Act* Protected Matters Search Tool as potentially occurring within the Operational Area and environment that may be affected

MNES	Number of MNES in Operational Area	Number of MNES in EMBA	Relevant section
World Heritage Properties	0	2	Section 4.8
National Heritage Places	0	5	Section 4.8
Wetlands of International Importance (Ramsar)	0	0	N/A
Commonwealth Marine Area	1	1	Section 4.1
Listed Threatened Ecological Communities	0	0	N/A
Listed Threatened Species	24	62	Section 4.6
Listed Migratory Species	34	95	Section 4.6

4.4 Physical environment

The Operational Area is located in Commonwealth waters within the NWS Province, in water depths of ~80 to 125 m. The bathymetry within the Operational Area is generally flat, which is consistent with the broader NWS Province shelf region (Baker et al., 2008). The seabed in the NWS Province has a gentle (0.05^{o}) seaward gradient, extending to a relatively steep outer slope approximately 200 to 300 km offshore in water depths of around 200 m (Dix et al., 2005). The continental slope then descends more rapidly from the shelf edge to depths greater than 1000 m to the north-west (James et al., 2005).

Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139) provides further information on the physical environment of the NWS Province and Figure 4-3 shows the bathymetry of the Operational Area and immediately adjacent areas.

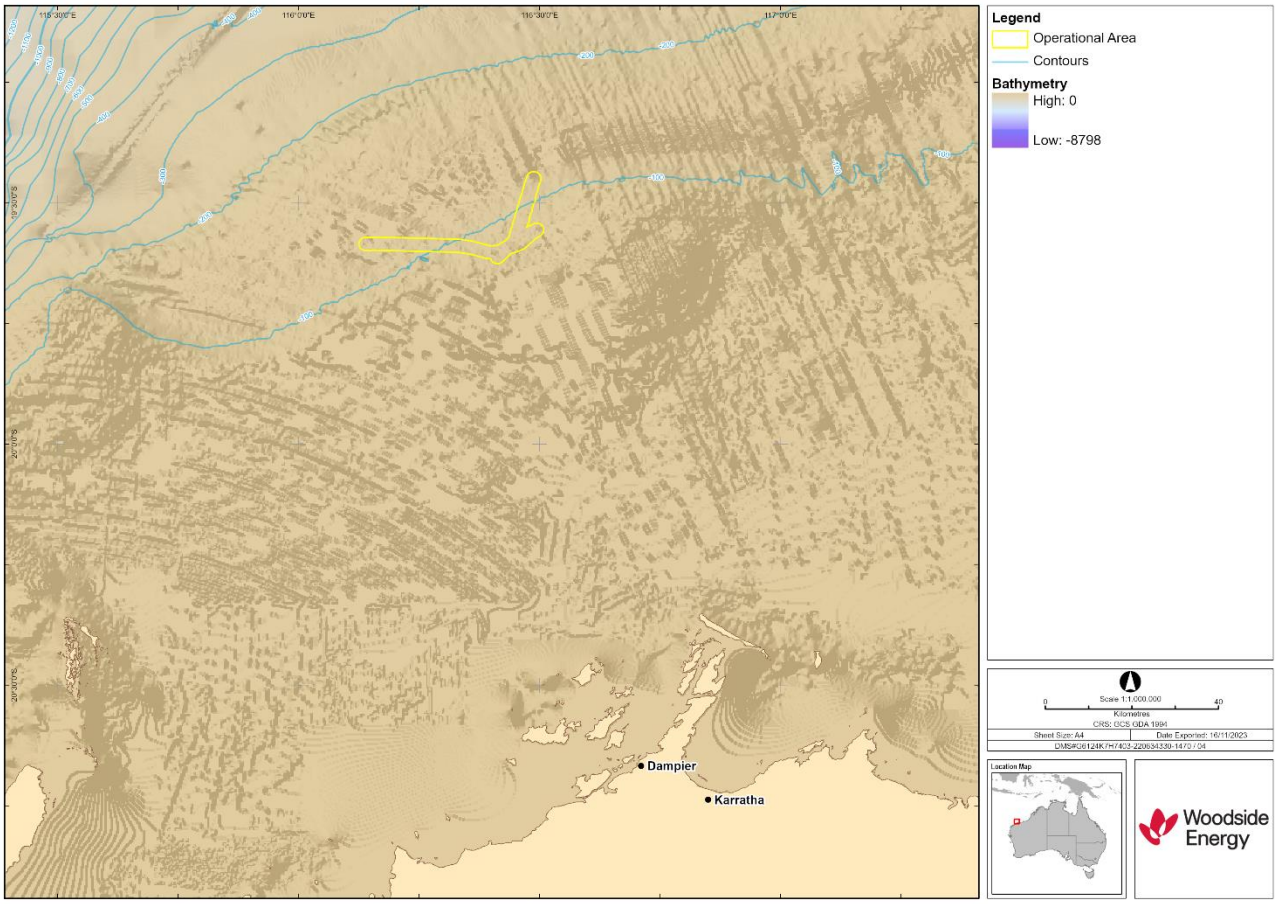


Figure 4-3: Regional bathymetry

4.5 Habitats and biological communities

Sediments in the Operational Area are broadly consistent with those in the NWS Province and can be inferred from Woodside sampling programs undertaken at Glomar Shoals (approximately 7 km from the Okha FPSO facility) and the Angel facility (approximately 18 km to the east of the Okha FPSO facility). The sediments in the Operational Area are expected to comprise primarily fine sands, very fine sands and silt with large proportions of shell fragments (BMT 2021, AIMS 2014, BMT 2015, Brewer et al 2007). Similarly, surveys conducted in 2014 as part of the Lambert Deep baseline investigations (a development associated with the Angel facility), found the sediments surveyed were classified as sub-littoral sediments. These sediments were predominantly coarse silt and some shell fragments with borrows, mounds, polychaetes and occasional hydroids, interspersed with areas of muddy sand and occasional polychaetes and sparse epibiota (Jacobs, 2014). A reconnaissance survey undertaken of the pipeline route linking the Angel platform to NRC (which runs through the Operational Area) indicated occasional outcrops of cemented substrate occur in localised depressions and identified a plateau-like structure up to 4 m higher than the flat, unconsolidated soft sediment seabed habitat of the south-west section of the proposed pipeline route (Sinclair Knight Merz, 2006). This indicates the potential for sparse outcrops of hard substrate within the Operational Area, which otherwise is predominantly composed of a flat, unconsolidated soft sediment seabed habitat.

The Operational Area partially overlaps the Ancient Coastline at 125 m Depth Contour key ecological feature (KEF), however, the Okha FPSO facility is located 10 km to the south of this KEF. Although several areas with sensitive habitat and features are present within this KEF, the majority of the seabed within the Operational Area is likely expansive areas of featureless sandy substrate.

Habitats and ecological communities within the EMBA are identified in Table 4-3 and described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

Table 4-3: Habitats and communities within the environment that may be affected (distance calculated from Operational Area)

Habitat/community	Key locations within the EMBA
Seabed characteristics	
NWS Province	Overlapping the Operational Area
Ancient Coastline at 125 m Depth Contour KEF	Overlapping the Operational Area (note, the Okha FPSO facility is located 10 km to the south of this KEF)
Various other KEFs	Described in Table 4-14
Marine primary producers	
Coral	• Glomar Shoals (approximately 7 km east of the Operational Area) • Rankin Bank (approximately 58 km southwest of the Operational Area) • Dampier Archipelago (approximately 94 km southeast of the Operational Area) • Montebello Islands Group (approximately 105 km southwest of the Operational Area) • Barrow Island Group (approximately 138 km southwest of the Operational Area) • Lowendal Islands Group (approximately 128 km southwest of the Operational Area) • Exmouth Gulf (approximately 285 km southwest of the Operational Area) • Ningaloo Reef (approximately 304 km southwest of the Operational Area) • Rowley Shoals (including Mermaid Reef, Clerke Reef and Imperieuse Reef) (approximately 321 km northeast of the Operational Area) • Shark Bay (approximately 607 km southwest of the Operational Area) • Scott Reef (approximately 819 km northeast of the Operational Area) • Houtman Abrolhos Islands (approximately 1,008 km southwest of the Operational Area) • Rottnest Island (approximately 1370 km southwest of the Operational Area)
Seagrass beds and macroalgae	• Dampier Archipelago (approximately 94 km southeast of the Operational Area) • Montebello Islands Group (approximately 105 km southwest of the Operational Area) • Barrow Island Group (approximately 138 km southwest of the Operational Area) • Lowendal Islands Group (approximately 128 km southwest of the Operational Area) • Exmouth Gulf (approximately 285 km southwest of the Operational Area) • Ningaloo Reef (approximately 304 km southwest of the Operational Area) • Shark Bay (approximately 607 km southwest of the Operational Area) • Houtman Abrolhos Islands (approximately 1,008 km southwest of the Operational Area) • Rottnest Island (approximately 1,370 km southwest of the Operational Area)
Mangroves	• Montebello Islands Group (approximately 105 km southwest of the Operational Area) • Barrow Island Group (approximately 138 km southwest of the Operational Area) • Lowendal Islands Group (approximately 128 km southwest of the Operational Area) • Exmouth Gulf (approximately 285 km southwest of the Operational Area) • Shark Bay (approximately 607 km southwest of the Operational Area) • Cape Range Peninsula (approximately 364 km southwest of the Operational Area) • Houtman Abrolhos Islands (approximately 1,008 km southwest of the Operational Area)

Habitat/community	Key locations within the EMBA
Sandy beaches	• Dampier Archipelago (approximately 94 km southeast of the Operational Area) • Montebello Islands Group (approximately 105 km southwest of the Operational Area) • Barrow Island Group (approximately 138 km southwest of the Operational Area) • Lowendal Islands Group (approximately 128 km southwest of the Operational Area) • Exmouth Gulf (approximately 285 km southwest of the Operational Area) • Muiron Islands (approximately 289 km southwest of the Operational Area) • Ningaloo Coast (approximately 317 km southwest of the Operational Area) • Shark Bay (approximately 607 km southwest of the Operational Area) • Scott Reef (Sandy Islet) (approximately 819 km northeast of the Operational Area) • Houtman Abrolhos Islands (approximately 1,008 km southwest of the Operational Area)
Other communities and habitats	
Plankton	Plankton is expected throughout the Operational Area and EMBA and is also expected to be representative of plankton present within the wider NWMR and SWMR, as detailed in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).
Pelagic and demersal fish populations	Pelagic and demersal fish are expected throughout the Operational Area and EMBA and are also expected to be representative of pelagic and demersal fish present within the wider NWMR and SWMR, as detailed in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).
Epifauna and infauna	Epifauna and infauna are expected throughout the Operational Area and EMBA and are also expected to be representative of epifauna and infauna present within the wider NWMR and SWMR, as detailed in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

4.6 Protected species

Threatened and migratory fauna within the Operational Area and EMBA have been identified from the EPBC Act PMST reports, provided in Appendix C. Species identified in the PMST that are not known to inhabit shorelines, nor rely on the marine environment for their diet, are not included or assessed.

Species identified as potentially occurring within the Operational Area and EMBA, BIAs, or habitat critical to the survival of the species (habitat critical) which overlap the Operational Area and EMBA, are also described in the following sections. Key threatened and migratory species and associated biologically important behaviours in the EMBA are further described in in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

4.6.1 Fish, sharks and rays

EPBC Act listed threatened and migratory fish species identified to potentially occur within the Operational Area and EMBA are listed in Table 4-4. A full list of EPBC Act listed species identified in the PMST search is provided in Appendix C.

BIAs that overlap the EMBA are presented in Table 4-5 and Figure 4-4. BIAs are further described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

Table 4-4: Threatened and migratory fish, shark and ray species predicted to occur within the Operational Area and environment that may be affected

Species name	Common name	*EPBC Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Anoxypristis cuspidata	Narrow sawfish, knifetooth sawfish	N/A	Migratory	N/A	Species or species habitat known to occur within area	Species or species habitat known to occur within area
Carcharhinus longimanus	Oceanic whitetip shark	N/A	Migratory	N/A	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
Carcharias taurus	Grey nurse shark (west coast population)[1]	Vulnerable	N/A	N/A	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
Carcharodon carcharias	Great white shark	Vulnerable	Migratory	N/A	Species or species habitat may occur within area	Foraging, feeding or related behaviour known to occur within area
Centrophorus uyato	Little gulper shark	Conservation dependent	N/A	N/A	N/A	Species or species habitat may occur within area
Galeorhinus galeus	School shark, eastern school shark, snapper shark, tope, soupfin shark	Conservation dependent	N/A	N/A	N/A	Species or species habitat may occur within area
Isurus oxyrinchus	Shortfin mako	N/A	Migratory	N/A	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
Isurus paucus	Longfin mako	N/A	Migratory	N/A	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
Lamna nasus	Porbeagle, mackerel shark	N/A	Migratory	N/A	N/A	Species or species habitat may occur within area

Species name	Common name	*EPBC Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Mobula alfredi	Reef manta ray	N/A	Migratory	N/A	Species or species habitat likely to occur within area	Species or species habitat known to occur within area
Mobula birostris	Giant manta ray	N/A	Migratory	N/A	Species or species habitat likely to occur within area	Species or species habitat known to occur within area
Pristis clavata	Dwarf sawfish, Queensland sawfish	Vulnerable	Migratory	N/A	N/A	Species or species habitat known to occur within area
Pristis zijsron	Green Sawfish, Dindagubba, Narrowsnout Sawfish	Vulnerable	Migratory	N/A	Species or species habitat known to occur within area	Species or species habitat known to occur within area
Rhincodon typus	Whale shark	Vulnerable	Migratory	N/A	Foraging, feeding or related behaviour known to occur within area	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini	Scalloped hammerhead	Conservation dependent	N/A	N/A	Species or species habitat likely to occur within area	Species or species habitat known to occur within area

1. The grey nurse shark is also identified as migratory species, but this classification does not apply to the west coast population species.

Table 4-5: Fish, shark and ray biologically important areas within the environment that may be affected

Species	BIA type	Approx. distance and direction of BIA from Operational Area (km)
Whale shark	Foraging (northward from Ningaloo along 200 m isobath)	Overlapping
	Foraging (high density prey) (Ningaloo Marine Park)	329 km southwest

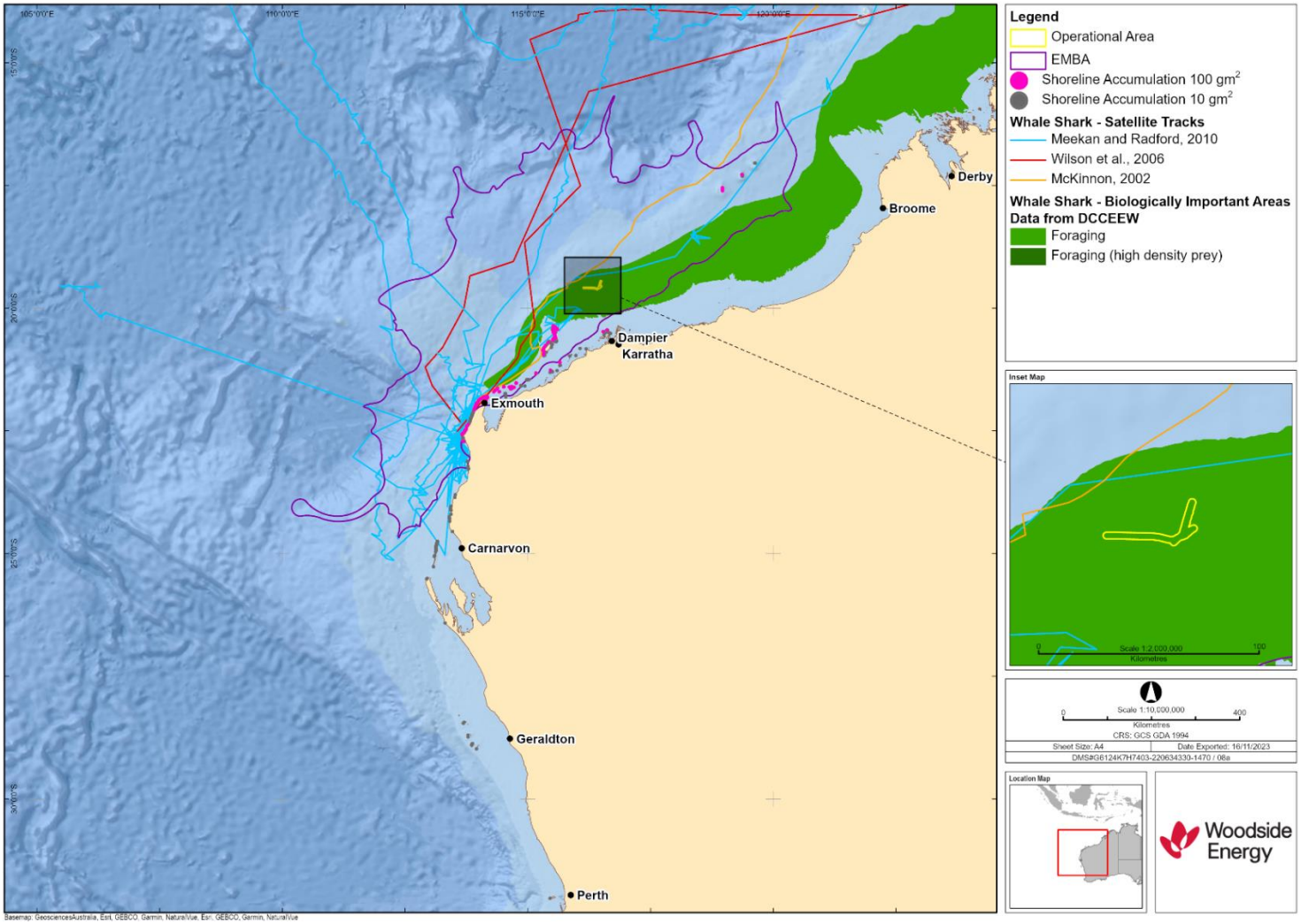


Figure 4-4: Whale shark biologically important areas overlapping the Operational Area and environment that may be affected and tagged whale shark satellite tracks

4.6.2 Marine reptiles

EPBC Act listed threatened and migratory marine reptile species identified to potentially occur within the Operational Area and EMBA are listed in Table 4-6. A full list of EPBC Act listed species identified in the PMST search is provided in Appendix C.

BIAs that overlap the EMBA are presented in Table 4-7 and Figure 4-5 and habitat critical to the survival of the species that overlap the EMBA are presented in Table 4-8 and Figure 4-6. These BIAs and habitat critical to the survival of the species are further described in in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

Table 4-6: Threatened and migratory marine reptile species predicted to occur within the Operational Area and environment that may be affected

Species name	Common name	EPBC Act 1999 (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Caretta caretta	Loggerhead turtle	Endangered	Migratory	Marine	Species or species habitat likely to occur within area	Breeding known to occur within area
Chelonia mydas	Green turtle	Vulnerable	Migratory	Marine	Species or species habitat likely to occur within area	Breeding known to occur within area
Dermochelys coriacea	Leatherback turtle	Endangered	Migratory	Marine	Species or species habitat likely to occur within area	Foraging, feeding or related behaviour known to occur within area
Eretmochelys imbricata	Hawksbill turtle	Vulnerable	Migratory	Marine	Species or species habitat likely to occur within area	Breeding known to occur within area
Lepidochelys olivacea	Olive ridley turtle, Pacific ridley turtle	Endangered	Migratory	Marine	N/A	Foraging, feeding or related behaviour likely to occur within area
Natator depressus	Flatback turtle	Vulnerable	Migratory	Marine	Congregation or aggregation known to occur within area	Breeding known to occur within area
Aipysurus apraefrontalis	Short-nosed sea snake	Critically endangered	N/A	Marine	Species or species habitat known to occur within area	Breeding known to occur within area
Aipysurus foliosquama	Leaf-scaled sea snake	Critically endangered	N/A	Marine	Species or species habitat likely to occur within area	Breeding known to occur within area
Aipysurus fuscus	Dusky sea snake	Endangered	N/A	Marine	N/A	Breeding known to occur within area

Species name	Common name	EPBC Act 1999 (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Crocodylus porosus	Salt-water crocodile	N/A	Migratory	Marine	Species or species habitat may occur within area	Species or species habitat may occur within area

Table 4-7: Marine turtle biologically important areas within the environment that may be affected

Species	BIA type	Approx. distance and direction of BIA from Operational Area (km)
Loggerhead Turtle	Internesting (buffer) (Cohen Island, Gnarloo Bay, Rosemary Island, Montebello Islands, Muron Island, Lowenthal Island, Dirk Hartog Island, Ningaloo Coast and Jurabi coast)	70 km southeast (Cohen Island) of the Operational Area
	Nesting (Ningaloo Coast and Jurabi coast, Muiron Island, Montebello Islands, Rosemary Island, Lowenthal Island)	93 km southeast (Rosemary Island) of the Operational Area
Green turtle	Aggregation (Coral reef habitat west of the Montebello group)	115 km southwest of the Operational Area
	Basking (Middle Island, Barrow Island (west and north coast)	136 km southwest (Barrow Island) of the Operational Area of the Operational Area
	Foraging (coral reef habitat west of the Montebello group, Montebello Island (Hermit Island, North West Island and Trimouille Island), islands between Cape Preston and Onslow inshore of Barrow Island, Dampier Archipelago, Montebello Islands, Barrow Island)	94 km southeast (Dampier Archipelago) of the Operational Area
	Internesting (Coral reef habitat west of the Montebello group, Barrow Island, Montebello Islands, Scott Reef, Dampier Archipelago)	94 km southeast (Dampier Archipelago) of the Operational Area
	Internesting buffer (Montebello Islands, Scott Reef, Montebello Island (Hermit Island, North West Island and Trimouille Island), Middle Island, Barrow Island (west and north coast), North West Cape, Dampier Archipelago, North and South Muiron Island, Scott Reef – Sandy Islet)	74 km southeast (Dampier Archipelago) of the Operational Area
	Mating (Middle Island, Barrow Island (west and north coast), Dampier Archipelago, Montebello Islands, Montebello Island (Hermit Island, North West Island and Trimouille Island), coral reef habitat west of the Montebello group)	94 km southeast (Dampier Archipelago) of the Operational Area
	Migration corridor (Dampier Archipelago)	94 km southeast (Dampier Archipelago) of the Operational Area
	Nesting (Middle Island, Barrow Island (west and north coast), North West Cape, Montebello Islands, Dampier Archipelago, Scott Reef – Sandy Islet, North and South Muiron Island, Scott Reef)	94 km southeast (Dampier Archipelago) of the Operational Area

Species	BIA type	Approx. distance and direction of BIA from Operational Area (km)
Hawksbill turtle	Foraging (Barrow Island, Dampier Archipelago, Lowendal Islands Group, islands between Cape Preston and Onslow inshore of Barrow Island, Montebello Island (Hermit Island, North West Island and Trimouille Island)	94 km southeast (Dampier Archipelago) of the Operational Area
	Internesting (Lowendal Islands Group, Dampier Archipelago)	94 km southeast (Dampier Archipelago) of the Operational Area
	Internesting buffer (Dampier Archipelago, Ah chong and South East Island, Ningaloo Coast and Jurabi coast, Thevenard Island, Scott Reef, Montebello Island, Trimoulle and North West Island, Rosemary Island, Scott Reef, Varanus Island, Delambre Island, Barrow Island, Lowendal Islands Group, Montebello Islands (Hermite Islands, North West Island, Trimouille Island))	71 km southeast (Delambre Island) of the Operational Area
	Mating (Barrow Island, Dampier Archipelago, Lowendal Islands Group, Montebello Islands)	94 km southeast (Dampier Archipelago) of the Operational Area
	Migration corridor (Dampier Archipelago)	94 km southeast (Dampier Archipelago) of the Operational Area
	Nesting (Lowendal Islands Group, Ningaloo Coast and Jurabi coast, Rosemary Island, Varanus Island, Scott Reef, Delambre Island, Thevenard Island, Dampier Archipelago, Ah chong and South East Island, Barrow Island, Montebello Islands)	91 km southeast (Delambre Island) of the Operational Area
Flatback turtle	Aggregation (Coral reef habit west of the Montebello group)	115 km southwest of the Operational Area
	Foraging (Montebello Islands (Hermit Island, North West Island, Trimouille Island), Dampier Archipelago, Barrow Island, islands between Cape Preston and Onslow inshore of Barrow Island, coral reef habitat west of the Montebello group)	94 km southeast (Dampier Archipelago) of the Operational Area
	Mating (Montebello Islands (Hermit Island, North West Island, Trimouille Island), Dampier Archipelago, Barrow Island, coral reef habitat west of the Montebello group)	94 km southeast (Dampier Archipelago) of the Operational Area
	Migration corridor (Dampier Archipelago)	94 km southeast of the Operational Area
	Nesting (Barrow Island, Dampier Archipelago, Montebello Islands (Hermit Island, North West Island, Trimouille Island), Thevenard Island - south coast)	94 km southeast (Dampier Archipelago) of the Operational Area
	Internesting buffer (Montebello Islands (Hermit Island, North West Island, Trimouille Island), Legendre Island, Hauy Island, Thevenard Island - south coast, west of Cape Lambert, Dixon Island, Dampier Archipelago, Delambre Island, Intercourse Island)	15 km southeast (Dampier Archipelago) of the Operational Area
	Internesting (coral reef habitat west of the Montebello group, Dampier Archipelago)	94 km southeast (Dampier Archipelago) of the Operational Area

Table 4-8: Habitat critical to the survival of the marine turtles predicted to occur within the environment that may be affected

Species	Location of habitat critical	Approx. distance and direction from Operational Area (km)
Loggerhead turtle	Nesting (Exmouth Gulf and Ningaloo Coast, Gnarloo Bay and beaches, Shark Bay, all coastal and island beaches out to the northern tip of Dirk Hartog Island)	298 km southwest (Exmouth Gulf and Ningaloo Coast) of the Operational Area
Green turtle	Nesting (Scott Reef, Dampier Archipelago, Barrow Island, Montebello Islands, Serrier Island and Thevenard Island, Exmouth Gulf and Ningaloo Coast)	71 km southeast (Dampier Archipelago) of the Operational Area
Hawksbill turtle	Nesting (Cape Preston to mouth of Exmouth Gulf including Montebello Islands and Lowendal Islands, Dampier Archipelago including Delambre Island and Rosemary Island)	71 km southeast (Dampier Archipelago) of the Operational Area
Flatback turtle	Nesting (Dampier Archipelago including Delambre Island and Hauy Island, Barrow Island, Montebello Islands, coastal islands from Cape Preston to Locker Island)	31 km southeast (Dampier Archipelago) of the Operational Area

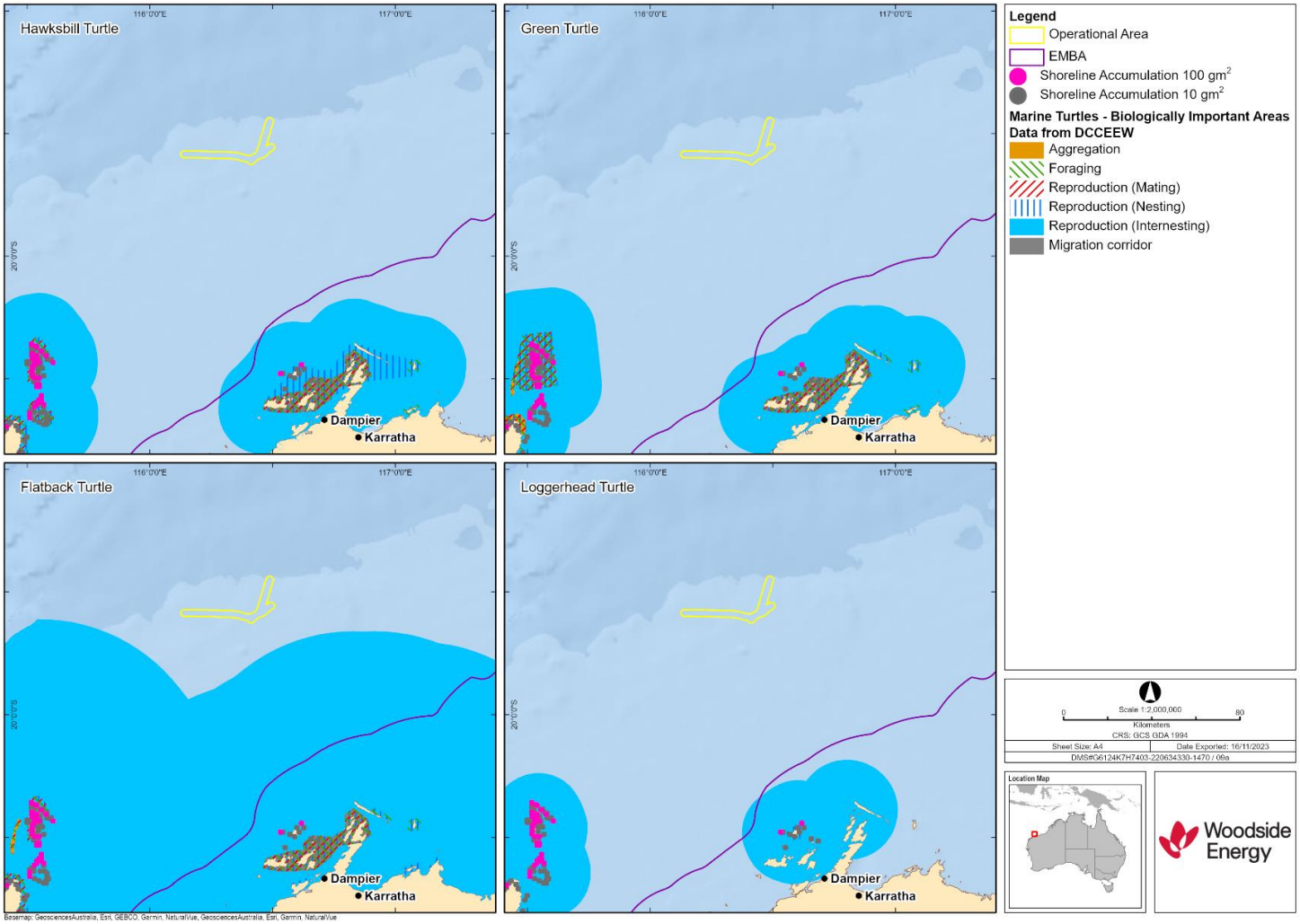


Figure 4-5: Marine turtle biologically important areas near the Operational Area

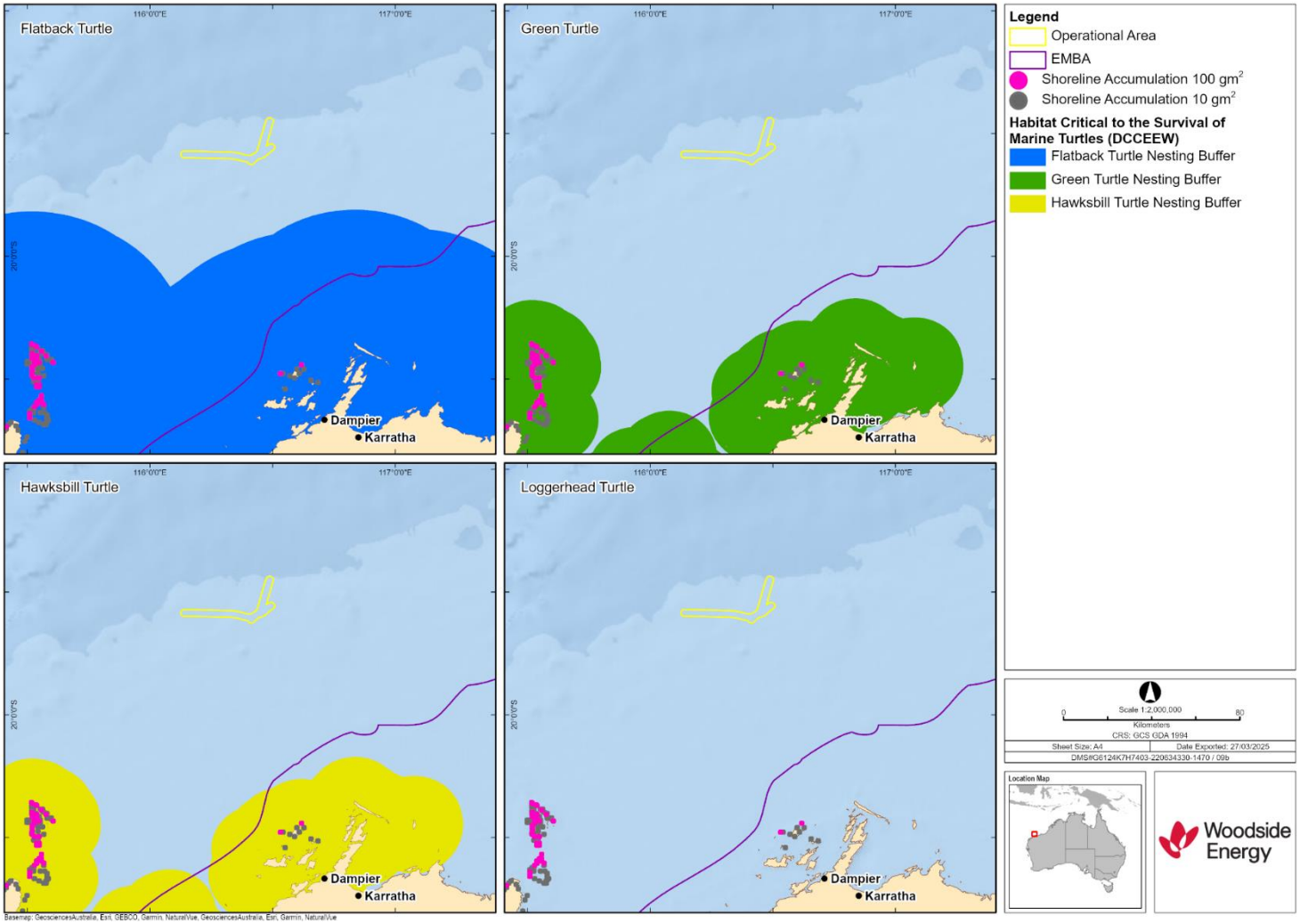


Figure 4-6: Habitat critical to the survival of marine turtles near the Operational Area

4.6.3 Marine mammals

EPBC Act listed threatened and migratory marine mammal species identified to potentially occur within the Operational Area and EMBA are listed in Table 4-9. A full list of EPBC Act listed species identified in the PMST search is provided in Appendix C.

BIAs that overlap the EMBA are presented in Table 4-10 and Figure 4-7 to Figure 4-11. These BIAs are further described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139). There are no habitats critical to the survival of the species for marine mammals overlapping the EMBA.

Table 4-9: Threatened and migratory marine mammal species predicted to occur within the Operational Area and environment that may be affected

Species name	Common name	*EPBC Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Balaenoptera bonaerensis	Antarctic minke whale, dark-shoulder minke whale	N/A	Migratory	N/A	N/A	Species or species habitat likely to occur within area
Balaenoptera borealis	Sei whale	Vulnerable	Migratory	N/A	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
Balaenoptera edeni	Bryde's whale	N/A	Migratory	N/A	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
Balaenoptera musculus	Blue whale	Endangered	Migratory	N/A	Species or species habitat likely to occur within area	Migration route known to occur within area
Balaenoptera physalus	Fin whale	Vulnerable	Migratory	N/A	Species or species habitat likely to occur within area	Species or species habitat likely to occur within area
Caperea marginata	Pygmy right whale	N/A	Migratory	N/A	N/A	Species or species habitat may occur within area
Eubalaena australis	Southern right whale	Endangered	Migratory	N/A	N/A	Breeding known to occur within area
Megaptera novaeangliae	Humpback whale	N/A	Migratory	N/A	Breeding known to occur within area	Breeding known to occur within area
Orcaella heinsohni	Australian snubfin dolphin	N/A	Migratory	N/A	N/A	Species or species habitat known to occur within area
Orcinus orca	Killer whale	N/A	Migratory	N/A	Species or species habitat may occur within area	Species or species habitat may occur within area

Species name	Common name	*EPBC Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Physeter macrocephalus	Sperm whale	N/A	Migratory	N/A	Species or species habitat may occur within area	Species or species habitat may occur within area
Sousa sahulensis	Australian humpback dolphin	N/A	Migratory	N/A	N/A	Species or species habitat known to occur within area
Tursiops aduncus	Spotted bottlenose dolphin (Arafura/Timor Sea populations)	N/A	Migratory	N/A	Species or species habitat may occur within area	Species or species habitat known to occur within area
Neophoca cinerea	Australian sea-lion, Australian sea lion	Endangered	N/A	Marine	N/A	Breeding known to occur within area
Dugong dugon	Dugong	N/A	Migratory	Marine	N/A	Breeding known to occur within area

Table 4-10: Marine mammal biologically important areas within the environment that may be affected

Species	BIA type	Approx. distance and direction from Operational Area (km)
Pygmy blue whale	Foraging (Ningaloo, Scott Reef)	337 km southwest (Ningaloo) of the Operational Area
	Known foraging area	975 km southwest of the Operational Area
	Migration (Augusta to Derby along the shelf edge)	42 km northwest of the Operational Area
Southern right whale	Reproduction	293 km southwest of the Operational Area
	Migration	312 km southwest of the Operational Area
Humpback whale	Migration (north and south) (100 km offshore in the Kimberley Region, Houtman Abrolhos Islands, West Coast – Bunbury to Lancefield including Rottnest Island)	29 km south of the Operational Area
	Resting (Shark Bay, Exmouth Gulf)	285 km southwest of the Operational Area
Australian sea lion	Foraging (male and female) (Houtman Abrolhos Islands)	990 km southwest of the Operational Area

Species	BIA type	Approx. distance and direction from Operational Area (km)
	Foraging (male) (Houtman Abrolhos Islands, Mid west coast including Beagle Island, Fisherman Island, Jurien Bay, Cervantes and Buller colonies)	1,020 km southwest of the Operational Area
Dugong	Breeding (Exmouth Gulf)	285 km southwest of the Operational Area
	Calving (Exmouth Gulf)	285 km southwest of the Operational Area
	Foraging (high density seagrass beds) (Exmouth Gulf)	285 km southwest of the Operational Area
	Nursing (Exmouth Gulf)	285 km southwest of the Operational Area

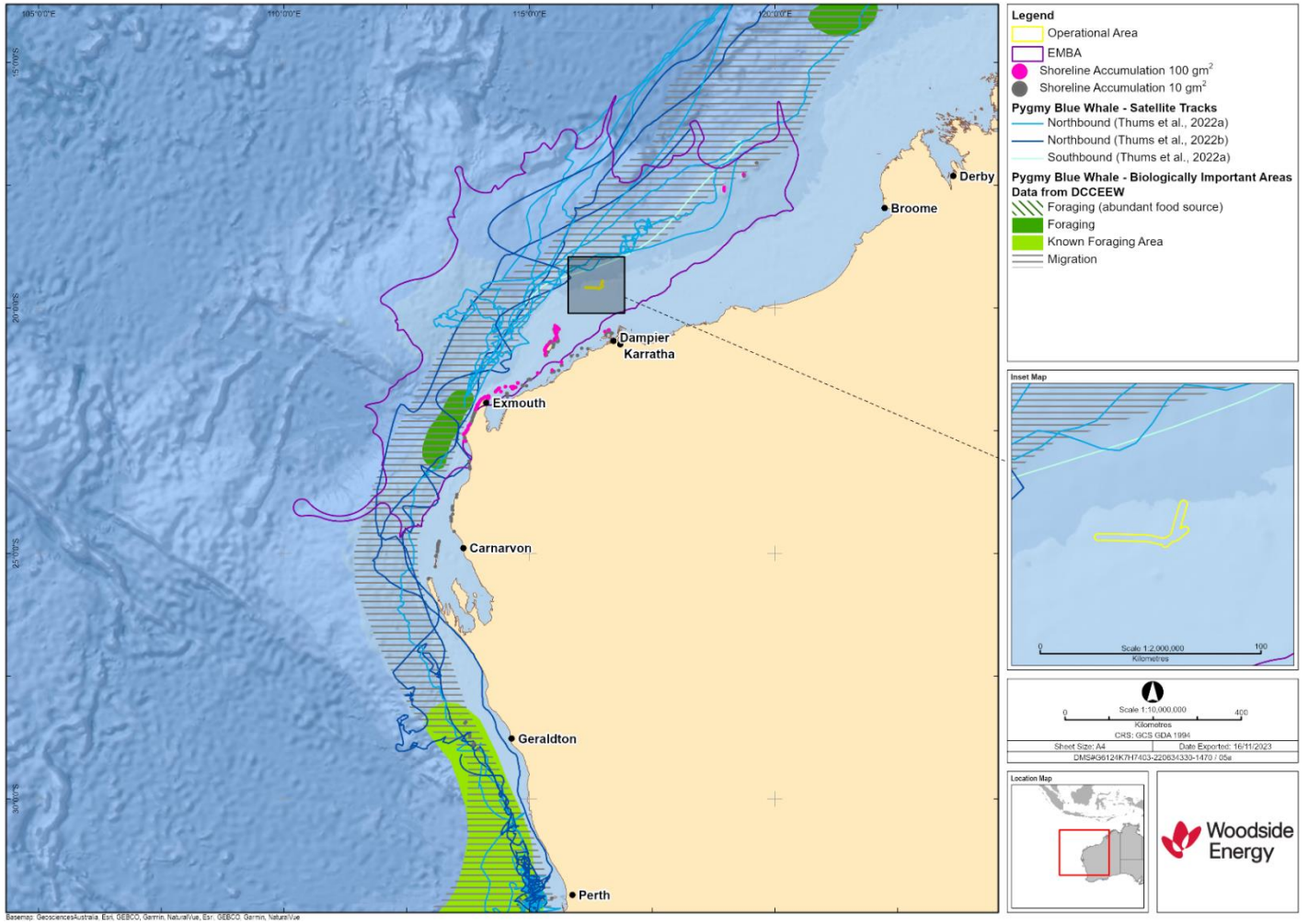


Figure 4-7: Pygmy blue whale biologically important areas overlapping the environment that may be affected and tagged whale tracks for northbound migration

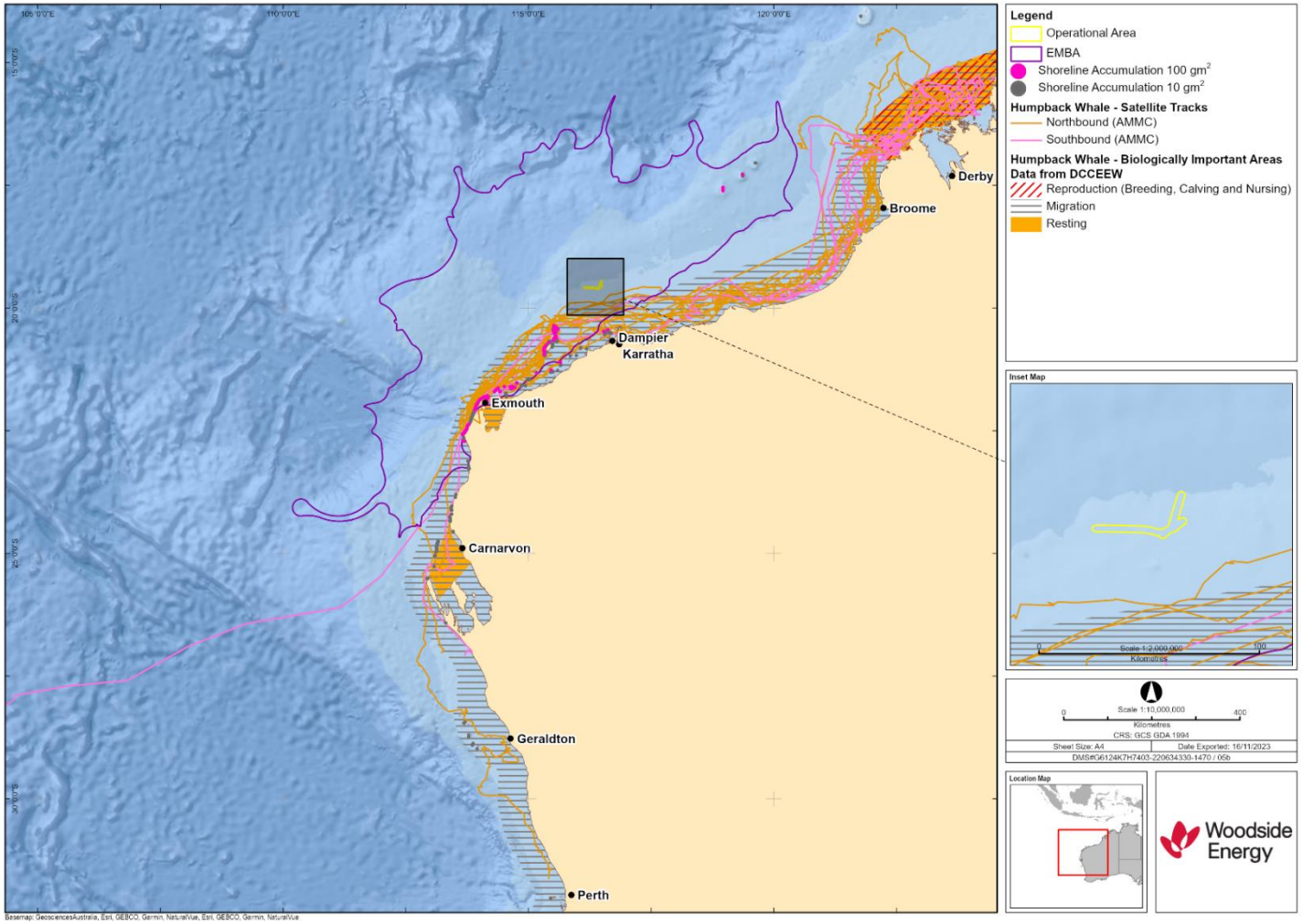


Figure 4-8: Humpback whale biologically important areas overlapping the environment that may be affected and tagged tracks for north and south bound migrations

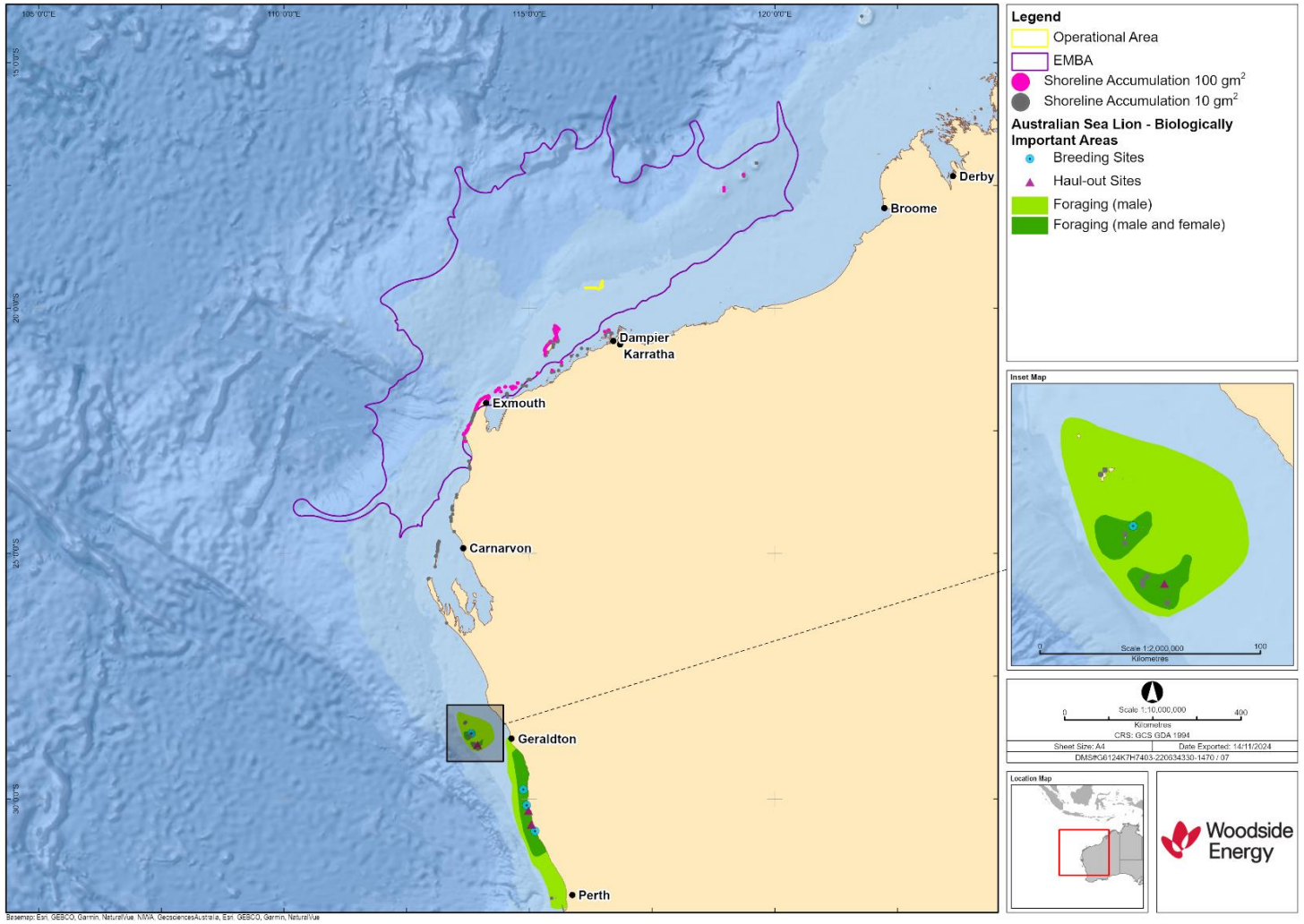


Figure 4-9: Australian sea lion biologically important areas overlapping the environment that may be affected

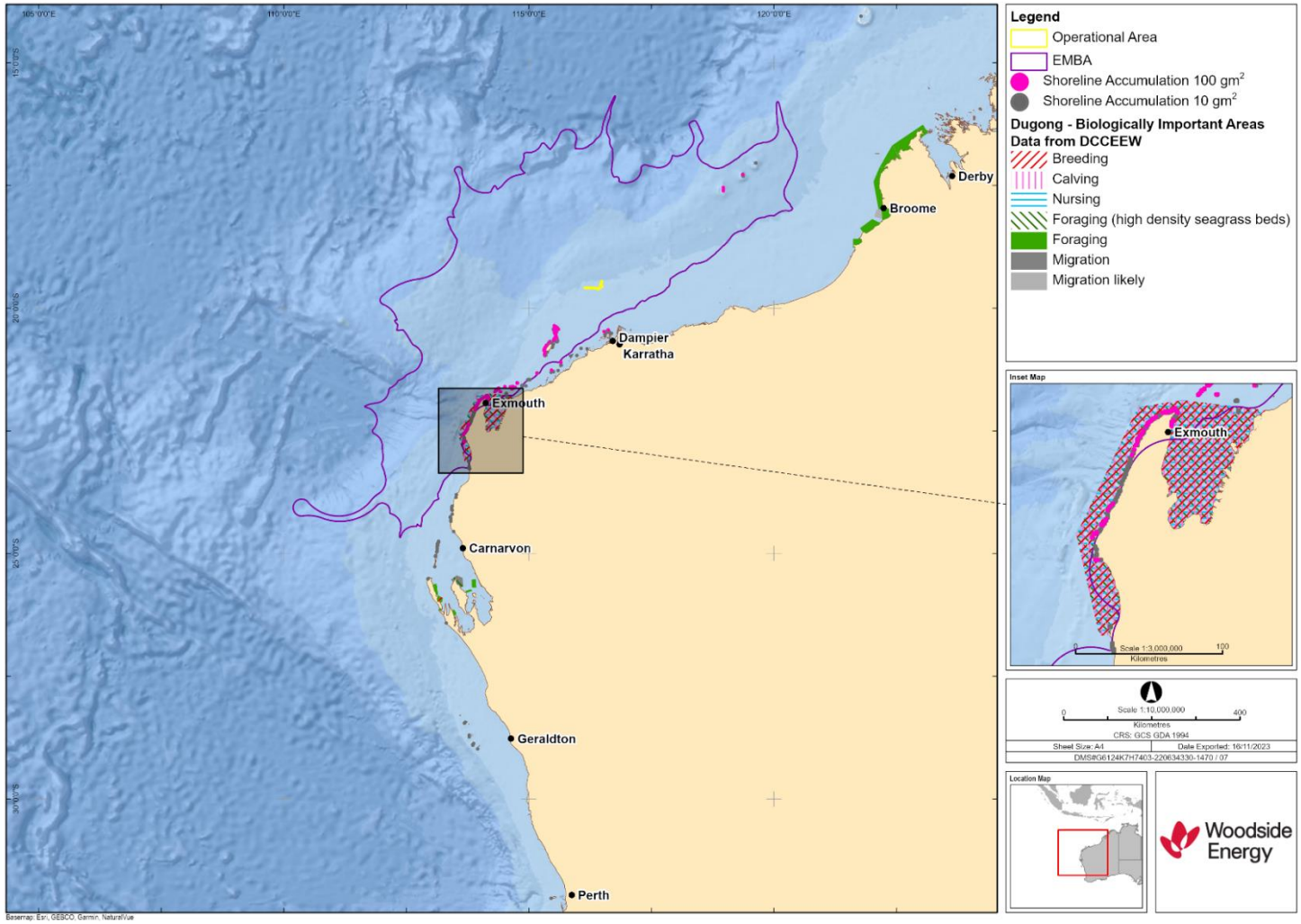


Figure 4-10: Dugong biologically important areas overlapping the environment that may be affected

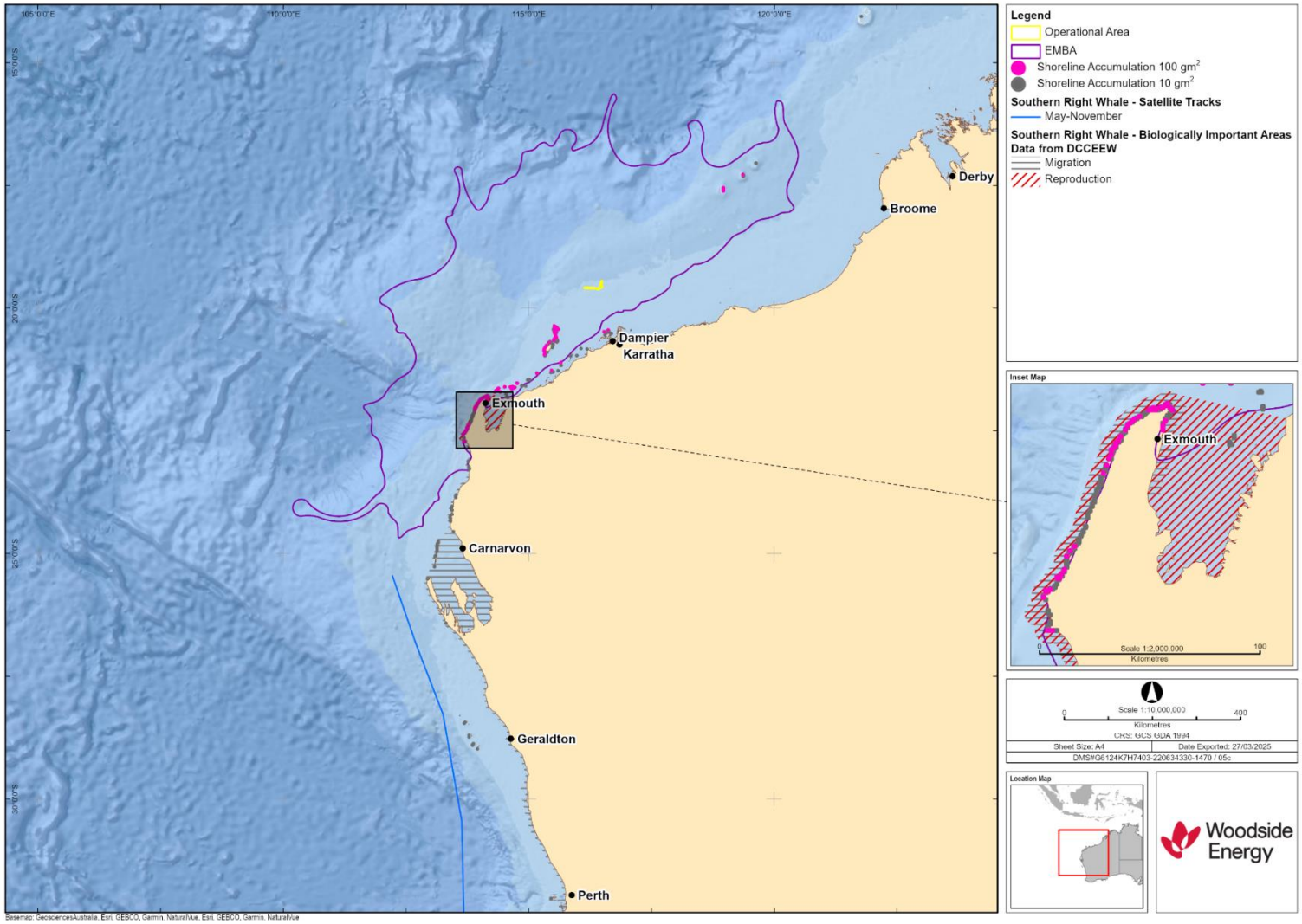


Figure 4-11: Southern right whale biologically important areas

4.6.4 Seabirds and migratory shorebirds

EPBC Act listed threatened seabirds and migratory shorebird species identified to potentially occur within the Operational Area and EMBA are listed in Table 4-11. A full list of EPBC Act listed species identified in the PMST search is provided in Appendix C.

BIAs that overlap the EMBA are presented in Table 4-11 and Figure 4-12. The BIAs within the EMBA are further described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

Table 4-11: Threatened and migratory seabird and migratory shorebird species predicted to occur within the Operational Area and environment that may be affected

Species name	Common name	*Environment Protection and Biodiversity Conservation Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Actitis hypoleucos	Common sandpiper	N/A	Migratory	Marine	Species or species habitat may occur within area	Species or species habitat known to occur within area
Anous stolidus	Common noddy	N/A	Migratory	Marine	Species or species habitat may occur within area	Species or species habitat likely to occur within area
Anous tenuirostris melanops	Australian lesser noddy	Vulnerable	N/A	Marine	N/A	Breeding known to occur within area
Apus pacificus	Fork-tailed swift	N/A	Migratory	Marine	N/A	Species or species habitat likely to occur within area overfly marine area
Ardenna carneipes	Flesh-footed shearwater, fleshy-footed shearwater	N/A	Migratory	Marine	N/A	Species or species habitat likely to occur within area
Ardenna grisea	Sooty shearwater	Vulnerable	Migratory	Marine	N/A	Species or species habitat may occur within area
Ardenna pacifica	Wedge-tailed shearwater	N/A	Migratory	Marine	N/A	Breeding known to occur within area
Arenaria interpres	Ruddy turnstone	Vulnerable	Migratory	Marine	N/A	Roosting known to occur within area
Calidris acuminata	Sharp-tailed sandpiper	Vulnerable	Migratory	Marine	Species or species habitat may occur within area	Roosting known to occur within area
Calidris alba	Sanderling	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Calidris canutus	Red knot, knot	Vulnerable	Migratory	Marine	Species or species habitat may occur within area overfly marine area	Species or species habitat may occur within area overfly marine area

Species name	Common name	*Environment Protection and Biodiversity Conservation Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Calidris ferruginea	Curlew sandpiper	Critically Endangered	Migratory	Marine	Species or species habitat may occur within area overfly marine area	Species or species habitat may occur within area overfly marine area
Calidris melanotos	Pectoral sandpiper	N/A	Migratory	Marine	Species or species habitat may occur within area overfly marine area	Species or species habitat may occur within area overfly marine area
Calidris ruficollis	Red-necked stint	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Calidris tenuirostris	Great knot	Vulnerable	Migratory	Marine	N/A	Roosting known to occur within area
Calonectris leucomelas	Streaked shearwater	N/A	Migratory	Marine	Species or species habitat may occur within area	Species or species habitat known to occur within area
Cecropis daurica	Red-rumped swallow	N/A	Migratory	Marine	N/A	Species or species habitat may occur within area
Charadrius bicinctus	Double-banded plover	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Charadrius leschenaultii	Greater sand plover, large sand plover	Vulnerable	Migratory	Marine	N/A	Species or species habitat known to occur within area
Charadrius mongolus	Lesser sand plover, Mongolian plover	Endangered	Migratory	Marine	N/A	Roosting known to occur within area
Charadrius veredus	Oriental plover, oriental dotterel	N/A	Migratory	Marine	N/A	Species or species habitat may occur within area
Diomedea amsterdamensis	Amsterdam albatross	Endangered	Migratory	Marine	N/A	Species or species habitat may occur within area
Diomedea dabbenena	Tristan albatross	Endangered	Migratory	Marine	N/A	Species or species habitat may occur within area
Diomedea epomophora	Southern royal albatross	Vulnerable	Migratory	Marine	N/A	Species or species habitat may occur within area

Species name	Common name	*Environment Protection and Biodiversity Conservation Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Diomedea exulans	Wandering albatross	Vulnerable	Migratory	Marine	N/A	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi	Northern royal albatross	Endangered	Migratory	Marine	N/A	Species or species habitat may occur within area
Erythrotriorchis radiatus	Red goshawk	Endangered	N/A	N/A	N/A	Species or species habitat may occur within area
Fregata ariel	Lesser frigatebird, least frigatebird	N/A	Migratory	Marine	Species or species habitat likely to occur within area	Species or species habitat known to occur within area
Fregata minor	Great frigatebird, greater frigatebird	N/A	Migratory	Marine	Species or species habitat may occur within area	Species or species habitat may occur within area
Gallinago megala	Swinhoe's snipe	N/A	Migratory	Marine	N/A	Roosting likely to occur within area overfly marine area
Gallinago stenura	Pin-tailed snipe	N/A	Migratory	Marine	N/A	Roosting likely to occur within area overfly marine area
Glareola maldivarum	Oriental pratincole	N/A	Migratory	Marine	N/A	Species or species habitat may occur within area overfly marine area
Halobaena caerulea	Blue petrel	Vulnerable	N/A	Marine	N/A	Species or species habitat may occur within area
Hirundo rustica	Barn swallow	N/A	Migratory	Marine	N/A	Species or species habitat known to occur within area
Hydroprogne caspia	Caspian tern	N/A	Migratory	Marine	N/A	Breeding known to occur within area
Limnodromus semipalmatus	Asian dowitcher	Vulnerable	Migratory	Marine	N/A	Species or species habitat known to occur within area

Species name	Common name	*Environment Protection and Biodiversity Conservation Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Limosa lapponica	Bar-tailed godwit	N/A	Migratory	Marine	N/A	Species or species habitat known to occur within area
Limosa lapponica menzbieri	Northern siberian bar-tailed godwit, Russkoye bar-tailed godwit	Endangered	N/A	N/A	N/A	Species or species habitat known to occur within area
Limosa limosa	Black-tailed godwit	Endangered	Migratory	Marine	N/A	Roosting known to occur within area
Macronectes giganteus	Southern giant-petrel, southern giant petrel	Endangered	Migratory	Marine	N/A	Species or species habitat may occur within area
Macronectes halli	Northern giant petrel	Vulnerable	Migratory	Marine	N/A	Foraging, feeding or related behaviour likely to occur within area
Numenius madagascariensis	Eastern curlew, far eastern curlew	Critically endangered	Migratory	Marine	Species or species habitat may occur within area	Species or species habitat known to occur within area
Numenius minutus	Little curlew, little whimbrel	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Numenius phaeopus	Whimbrel	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Onychoprion anaethetus	Bridled tern	N/A	Migratory	Marine	N/A	Breeding known to occur within area
Pachyptila turtur subantarctica	Fairy prion (southern)	Vulnerable	N/A	N/A	N/A	Species or species habitat known to occur within area
Pandion haliaetus	Osprey	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Papasula abbotti	Abbott's booby	Endangered	N/A	Marine	N/A	Species or species habitat may occur within area

Species name	Common name	*Environment Protection and Biodiversity Conservation Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Phaethon lepturus	White-tailed tropicbird	N/A	Migratory	Marine	Species or species habitat likely to occur within area	Breeding known to occur within area
Phaethon lepturus fulvus	Christmas Island white-tailed tropicbird, golden bosunbird	Endangered	N/A	Marine	Species or species habitat may occur within area	Species or species habitat may occur within area
Phaethon rubricauda	Red-tailed tropicbird	N/A	Migratory	Marine	N/A	Breeding known to occur within area
Phaethon rubricauda westralis	Red-tailed tropicbird (Indian Ocean), Indian Ocean red-tailed tropicbird	Endangered	N/A	N/A	Species or species habitat likely to occur within area	Breeding known to occur within area
Phalaropus lobatus	Red-necked phalarope	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Phoebetria fusca	Sooty albatross	Vulnerable	Migratory	Marine	N/A	Species or species habitat may occur within area
Pluvialis fulva	Pacific golden plover	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Pluvialis squatarola	Grey plover	Vulnerable	Migratory	Marine	N/A	Roosting known to occur within area overfly marine area
Pterodroma mollis	Soft-plumaged petrel	Vulnerable	N/A	Marine	N/A	Foraging, feeding or related behaviour known to occur within area
Rostratula australis	Australian painted snipe	Endangered	N/A	Marine	N/A	Species or species habitat likely to occur within area overfly marine area
Sterna dougallii	Roseate tern	N/A	Migratory	Marine	N/A	Breeding known to occur within area

Species name	Common name	*Environment Protection and Biodiversity Conservation Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Sternula albifrons	Little tern	N/A	Migratory	Marine	N/A	Breeding known to occur within area
Sternula nereis nereis	Australian fairy tern	Vulnerable	N/A	N/A	Species or species habitat may occur within area	Breeding known to occur within area
Sula leucogaster	Brown booby	N/A	Migratory	Marine	N/A	Breeding known to occur within area
Thalassarche carteri	Indian yellow-nosed albatross	Vulnerable	Migratory	Marine	N/A	Species or species habitat likely to occur within area
Thalassarche cauta	Shy albatross	Endangered	Migratory	Marine	N/A	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida	Campbell albatross, Campbell black-browed albatross	Vulnerable	Migratory	Marine	N/A	Species or species habitat may occur within area
Thalassarche melanophris	Black-browed albatross	Vulnerable	Migratory	Marine	N/A	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi	White-capped albatross	Vulnerable	Migratory	Marine	N/A	Species or species habitat may occur within area
Thalasseus bergii	Greater crested tern	N/A	Migratory	Marine	N/A	Breeding known to occur within area
Tringa brevipes	Grey-tailed tattler	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Tringa glareola	Wood sandpiper	N/A	Migratory	Marine	N/A	Species or species habitat known to occur within area
Tringa nebularia	Common greenshank, greenshank	Endangered	Migratory	Marine	N/A	Species or species habitat known to occur within area

Species name	Common name	*Environment Protection and Biodiversity Conservation Act 1999* (as per PMST report Appendix C)			Potential for interaction	
		Threatened status	***Migratory status***	***Listed***	***Operational Area***	***EMBA***
Tringa stagnatilis	Marsh sandpiper, little greenshank	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Tringa totanus	Common redshank, redshank	N/A	Migratory	Marine	N/A	Roosting known to occur within area
Xenus cinereus	Terek sandpiper	Vulnerable	Migratory	Marine	N/A	Roosting known to occur within area

Table 4-12: Seabird and shorebird biologically important areas within the Operational Area and the environment that may be affected

Species	BIA type	Approx. distance and direction from Operational Area (km)
Common noddy	Foraging (provisioning young) (Houtman Abrolhos Islands)	977 km southwest of the Operational Area
Australian lesser noddy	Foraging (provisioning young) (Houtman Abrolhos Islands)	998 km southwest of the Operational Area
Flesh-footed shearwater	Aggregation (Cape Naturaliste to Eyre)	1357 km southwest of the Operational Area
Wedge-tailed shearwater	Breeding (Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef)	Overlapping
	Foraging (in high numbers) (off west coast from Ashmore Reef to Carnac Island)	768 km southwest of the Operational Area
Lesser frigatebird	Breeding (Kimberley and Pilbara coasts and islands including Ashmore Reef)	166 km east of the Operational Area
Caspian tern	Foraging (provisioning young) n Australia found on most coasts, mainly islands (as far offshore as Adele, Bedout, Trimouille and the Houtman Abrolhos) and at Lake Argyle, Lake Gregory and Lake MacLeod; accidental elsewhere in the interior	935 km southwest of the Operational Area
Bridled tern	Foraging (in high numbers) (west coast of Western Australia and around to Recherche Archipelago including offshore waters)	776 km southwest of the Operational Area
White-tailed tropicbird	Breeding (Kimberley. Pilbara and Gascoyne coasts and islands including Ashmore Reef)	218 km northeast of the Operational Area
Soft-plumaged petrel	Foraging (in high numbers) (in Western Australia found in seas north to 21°30'2S)	1084 km southwest of the Operational Area
Roseate tern	Breeding (Kimberley. Pilbara and Gascoyne coasts and islands including Ashmore Reef)	67 km southeast of the Operational Area

Species	BIA type	Approx. distance and direction from Operational Area (km)
	Foraging (provisioning young) (North-western and west coasts and islands from Sir Graham Moore Island, south to Mandurah and as far offshore as Ashmore Reef, Bedout Island and the Houtman Abrolhos)	967 km southwest of the Operational Area
	Foraging (North-western and west coasts and islands from Sir Graham Moore Island, south to Mandurah and as far offshore as Ashmore Reef, Bedout Island and the Houtman Abrolhos)	1104 km southwest of the Operational Area
Little tern	Resting (Kimberley, Pilbara and Gascoyne coasts and islands including Ashmore Reef)	312 km northeast of the Operational Area
Australian Fairy tern	Breeding (Pilbara and Gascoyne coasts and islands)	83 km southeast of the Operational Area
	Foraging (in high numbers) (vicinity of lower north-west coast (north to Dampier Archipelago), west coast (south to Peel Inlet) and south coast (from Flinders Bay east to Israelite Bay), including islands (as far offshore as Trimouille I. and Houtman Abrolhos)	968 km southwest of the Operational Area

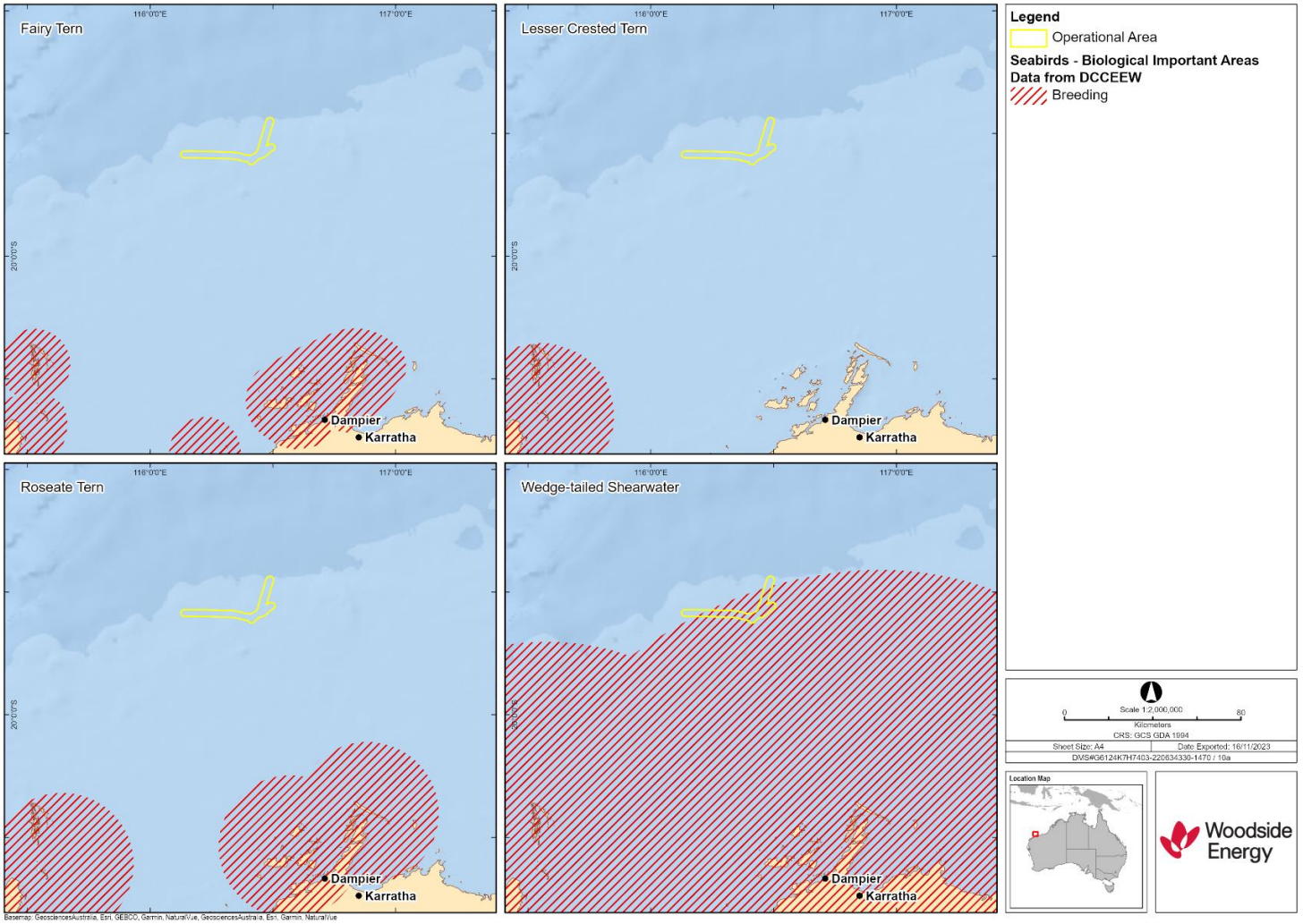


Figure 4-12: Seabird and migratory shorebird biologically important areas in proximity (<100 km) to the Operational Area

4.6.5 Seasonal sensitivities for protected species

Seasonal sensitivities for protected migratory species identified as potentially occurring within the Operational Area are identified in Table 4-13. Seasonal sensitivities for species in the wider NWMR are described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

Table 4-13: Key seasonal sensitivities for protected migratory species identified as occurring within the Operational Area

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fish, sharks and rays												
Whale shark – foraging (northward from Ningaloo)[1]												
Marine reptiles[2]												
Flatback turtle, Pilbara Coast genetic stock – nesting												
Flatback turtle, Pilbara Coast genetic stock – hatching												
Green turtle, NWS genetic stock – nesting												
Green turtle, NWS genetic stock – hatching												
Hawksbill turtle Western Australia genetic stock – nesting												
Hawksbill turtle Western Australia genetic stock – hatching												
Loggerhead turtle – nesting												
Loggerhead turtle - hatching												
Mammals												
Fin whale												
Humpback whale – northern migration[3]												
Humpback whale – southern migration[4]												
Pygmy blue whale – northern migration[5]												
Pygmy blue whale – southern migration[6]												
Seabirds and shorebirds												
Wedge-tailed shearwater – various breeding sites * Fledgling emergence (first two weeks of April)				*								
Red knot – non-breeding season (NWMR) [7]												
Common sandpiper – non-breeding season [8]												

Species	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Sharp-tailed sandpiper – non-breeding season [8]												
Curlew sandpiper – non-breeding season [8]												
Streaked shearwater – non-breeding season [8]												
Lesser frigatebird – non-breeding season [8]												
Great frigatebird – non-breeding season [8]												
Eastern curlew – non-breeding (NWMR) [8]												
White-tailed tropicbird [8]												

	Species may be present in the Operational Area.
	Peak period. Presence of animals is reliable and predictable each year.

References and notes for species seasonal sensitivities:

[1] Threatened Species Scientific Committee, 2015a.

[2] Information regarding seasonal occurrence of marine turtles has been taken from the Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017).

[3] Threatened Species Scientific Committee, 2015b, Commonwealth of Australia, 2012, Salgado Kent et al., 2012.

[4] Threatened Species Scientific Committee, 2015b, Commonwealth of Australia, 2012, Salgado Kent et al., 2012, Irvine and Salgado Kent, 2019.

[5] Commonwealth of Australia, 2012, Commonwealth of Australia, 2015a, McCauley et al., 2018, Thums et al., 2022.

[6] Commonwealth of Australia, 2012, Commonwealth of Australia, 2015a, McCauley et al., 2018, Thums et al., 2022, McCauley and Jenner, 2010.

[7] DCCEEW, 2024b

[8] DCCEEW, 2025

4.7 Key ecological features

KEFs within the Operational Area and EMBA are identified in Table 4-14 and described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139). Figure 4-13 shows the spatial overlap with KEFs and the Operational Area and EMBA.

Table 4-14: Key ecological features within the Operational Area and environment that may be affected

Key ecological feature	Distance (minimum) and direction from Operational Area to KEF (km)
Ancient coastline at 125 m depth contour	Overlapping[1]
Seringapatam Reef and Commonwealth waters in the Scott Reef complex	Approximately 801 km northwest
Continental slope demersal fish communities	Approximately 67 km
Glomar Shoals	Approximately 7 km east
Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	Approximately 308 km northeast
Exmouth Plateau	Approximately 180 km west

Key ecological feature	Distance (minimum) and direction from Operational Area to KEF (km)
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	Approximately 258 km southwest.
Commonwealth waters adjacent to Ningaloo Reef	Approximately 304 km southwest

Note 1: Whilst the Operational Area overlaps the Ancient coastline at 125 m depth contour KEF, the FPSO is located 10 km to the south of this KEF.

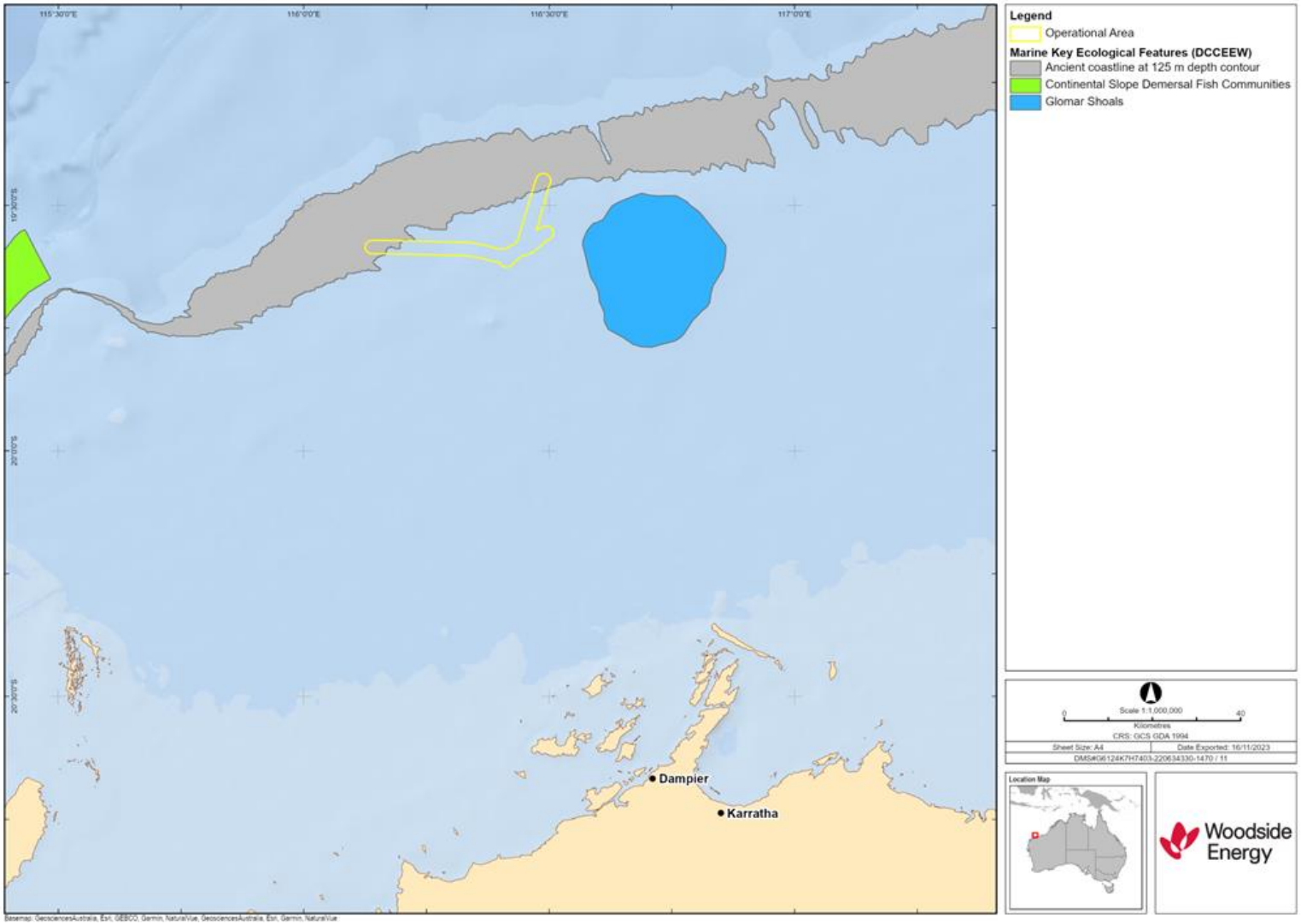


Figure 4-13: Key ecological features close to the Operational Area

4.8 Protected places

The Operational Area does not overlap any protected places. Protected places within the EMBA are identified in Table 4-15 and presented in Figure 4-14. Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139) outlines the values and sensitivities of protected places and other sensitive areas in the EMBA.

Table 4-15: Established protected places and other sensitive areas overlapping the environment that may be affected

	Distance (minimum) and direction from Operational Area to protected place or sensitive area (km)	IUCN category* or relevant park zone overlapping the Operational Area and/or EMBA
AMPs		
NWMR		
Montebello	56 km southwest	VI
Argo-Rowley Terrace	186 km north	VI
Gascoyne	277 km southwest	IV, VI
Mermaid Reef	404 km northwest	II
Ningaloo	432 km southwest	IV
Shark Bay	607 km southwest	VI
State marine parks and nature reserves		
Marine parks		
Ningaloo	304 km southwest	N/A
Rowley Shoals	317 km northwest	N/A
Montebello Islands	100 km southwest	N/A
Barrow Island	100 km southwest	N/A
Marine management areas		
Barrow Island	121 km southwest	N/A
Muiron Islands	286 km southwest	N/A
Fish habitat protection areas		
Abrolhos Islands	998 km southwest	N/A
Point Quobba	610 km southwest	N/A
Nature reserves		
Scott Reef	819 km northwest	N/A
Great Sandy Island	134 km south	N/A
Thevenard Island	235 km southwest	N/A
Round Island	274 km southwest	N/A
Muiron Islands	294 km southwest	N/A
Y Island	316 km southwest	N/A
Serrurier Island	269 km southwest	N/A
Koks Island	648 km southwest	N/A
Locker Island	400 km southwest	N/A

	Distance (minimum) and direction from Operational Area to protected place or sensitive area (km)	IUCN category* or relevant park zone overlapping the Operational Area and/or EMBA
Victor Island	313 km southwest	N/A
Bernie and Dorre Islands	673 km southwest	N/A
Lowendal Islands	128 km southwest	N/A
Bessieres Island	256 km southwest	N/A
North Sandy Island	175 km southwest	N/A
Airlie Island	216 km southwest	N/A
Barrow Island	121 km southwest	N/A
Boodie, Double Middle Islands	167 km southwest	N/A
Other sensitive areas		
National parks		
Cape Range	345 km southwest	N/A
Houtman Abrolhos Islands	1007 km southwest	N/A
Dirk Hartog Island	730 km southwest	N/A
Conservation parks		
Montebello Islands	104 km southwest	N/A
State reserves		
Rottnest Island	1372 km south	N/A
Coastal reserves		
Nyinggulu (Ningaloo) Coastal Reserve	505 km southwest	N/A

**Conservation objectives for IUCN categories include:*

- *Ia: Strict nature reserve*
- *Ib: Wilderness area*
- *II: National Park*
- *III: Natural monument or feature*
- *IV: Habitat/species management area*
- *V: Protected landscape*
- *VI: Protected area with sustainable use of natural resources – allows human use but prohibits large-scale development.*

IUCN categories for the marine park are provided and, in brackets, the IUCN categories for specific zones within each marine park as assigned under the North-west Marine Parks Network Management Plan 2018 and South-west Marine Parks Network Management Plan 2018.

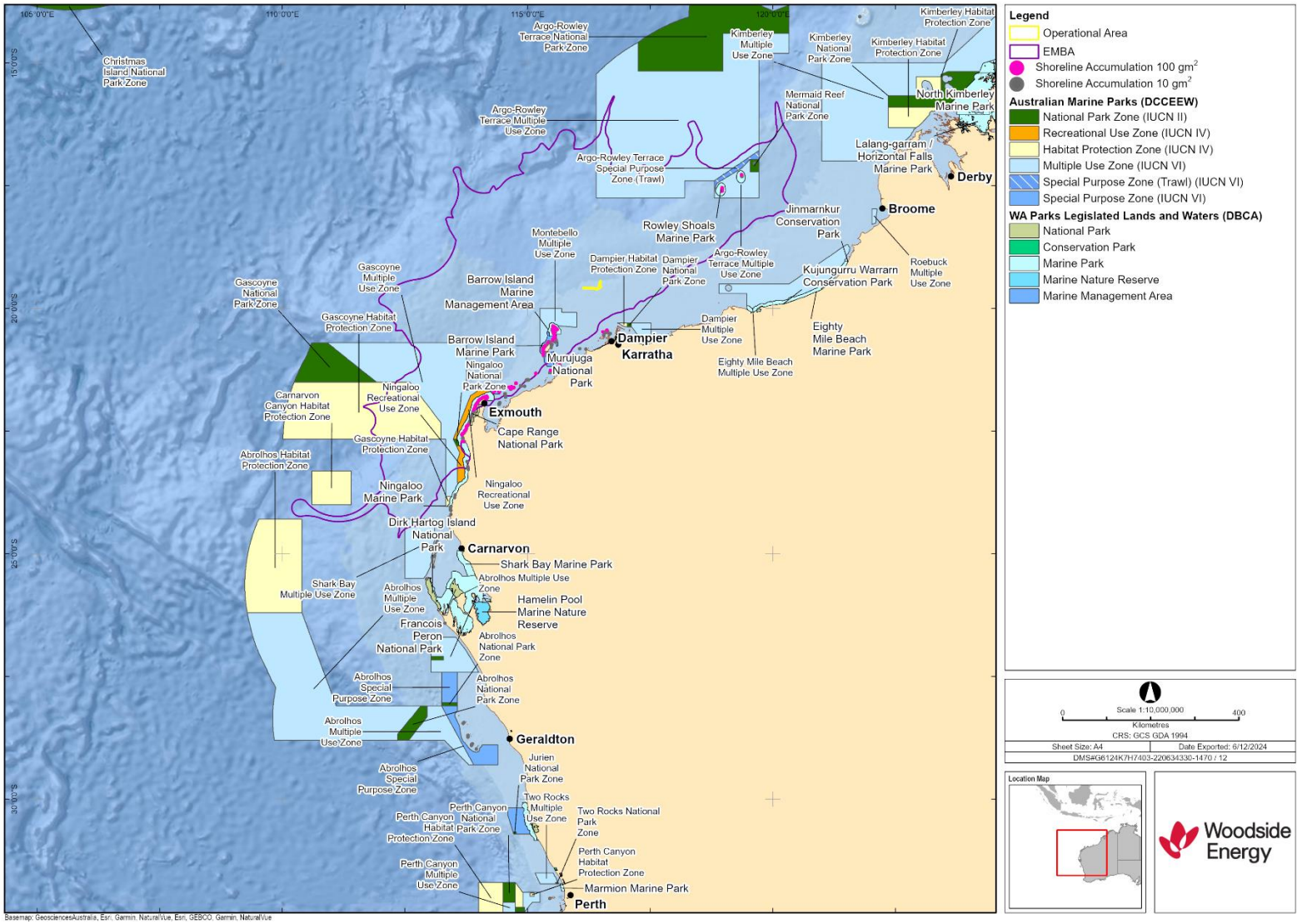


Figure 4-14: Protected areas overlapping the environment that may be affected

4.9 Cultural values and heritage

Woodside recognises the 'environment' for the purpose of the evaluation required under the Environment Regulations includes:

- the heritage value of places
- the social, economic and cultural features of the broader environment.

In this section, the heritage value of places within the Operational Area and EMBA and the cultural features of these areas are described. Description of cultural values and heritage as they relate to the wider NWMR and SWMR are described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

4.9.1 Native Title

For the Petroleum Activity, there are five native title claims or determinations overlapping the EMBA and 16 that are coastally adjacent to the EMBA. Table 4-16 lists these; however, it does not differentiate between claims and determinations as it is acknowledged rights and interests may exist within either of these.

There are also eight ILUAs overlapping the EMBA and 25 that are coastally adjacent to the EMBA. Table 4-16 also lists these relevant ILUAs.

Figure 4-15 shows the relevant native title claims or determinations and ILUAs relevant to the EMBA.

4.9.2 Coastally adjacent First Nations groups

To identify cultural features and heritage values which may exist outside of a native title claim, determination and ILUA areas, Woodside considers native title claims, determinations and ILUAs coastally adjacent to the EMBA to be an instructive means of identifying potentially relevant First Nations groups to be consulted (see Section 5).

Further description of how Woodside engages with coastally adjacent first nations groups is provided in Appendix F.

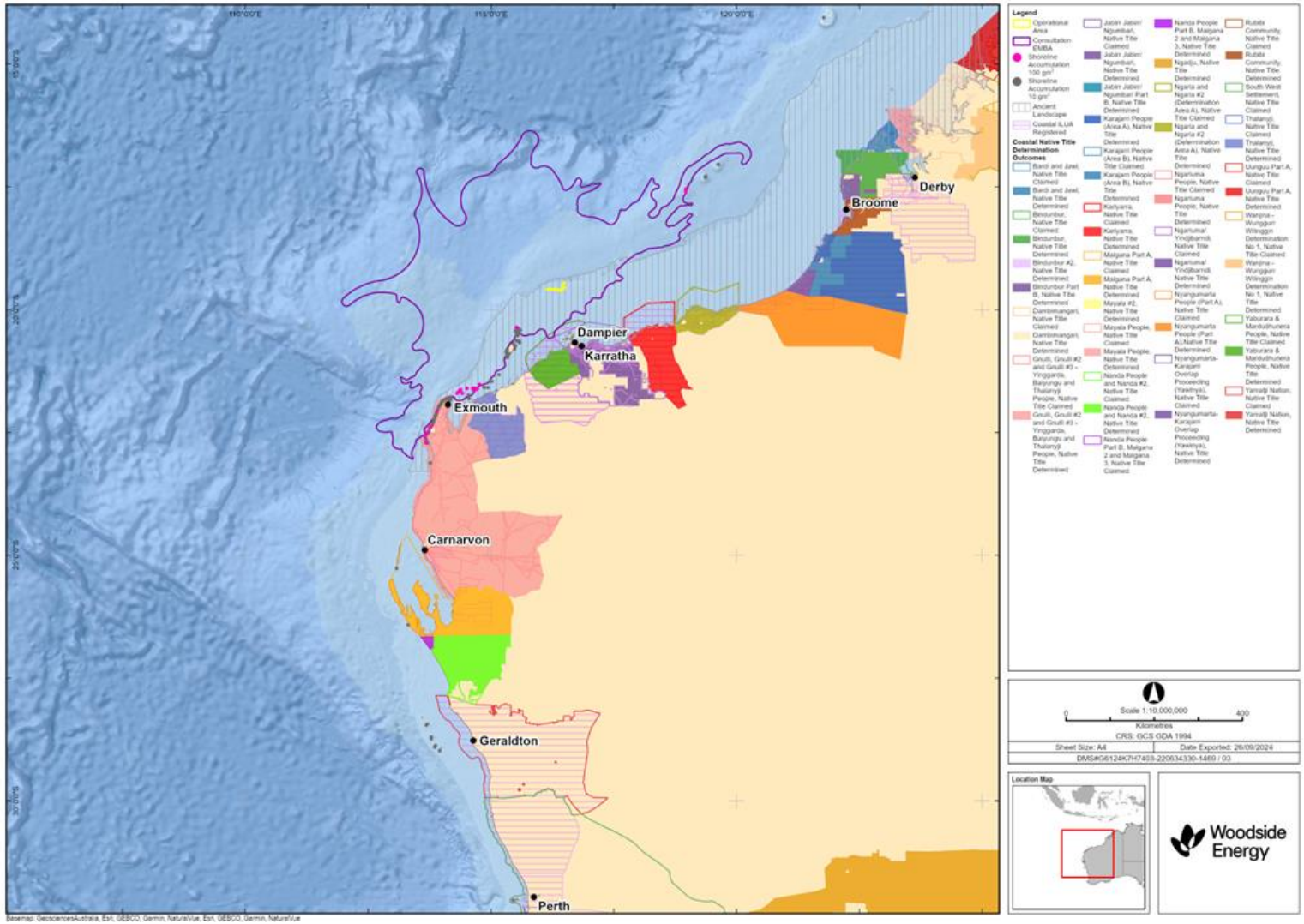


Figure 4-15: Operational Area and environment that may be affected in relation to native title claims, determinations and Indigenous Land Use Agreements

Table 4-16: Summary of native title claims, determinations and Indigenous Land Use Agreements that overlap or are coastally adjacent to the environment that may be affected

Claim/determination/ ILUA	Registered Native Title Body Corporate	Overlap with EMBA	Coastally adjacent to EMBA
Claim/determination			
Gnulli, Gnulli #2 and Gnulli #3 – Yinggarda, Baiyungu and Thalanyji People	Nganhurra Thanardi Garrbu Aboriginal Corporation,Yinggarda Aboriginal Corporation	Yes	Yes
Malgana Part A	Malgana Aboriginal Corporation	Yes	Yes
South West Settlement	South West Aboriginal Land and Sea Council	Yes	Yes
Yaburara & Mardudhunera People	Wirrawandi Aboriginal Corporation	Yes	Yes
Ngarluma People	Ngarluma Aboriginal Corporation	Yes	Yes
Bindunbur	Nimanburr Aboriginal Corporation, Nyul Nyul PBC Aboriginal Corporation, Gogolanyngor Aboriginal Corporation	No	Yes
Jabirr Jabirr/Ngumbarl	Gogolanyngor Aboriginal Corporation	No	Yes
Karajarri People (Area A)	Karajarri Traditional Lands Association (Aboriginal Corporation)	No	Yes
Karajarri People (Area B)	Karajarri Traditional Lands Association (Aboriginal Corporation)	No	Yes
Kariyarra	Kariyarra Aboriginal Corporation	No	Yes
Ngarla and Ngarla #2 (Determination Area A)	Wanparta Aboriginal Corporation	No	Yes
Ngarla Overlap Proceeding	Wanparta Aboriginal Corporation	No	Yes
Ngarla People (Mount Goldsworthy Lease Proceeding)	Wanparta Aboriginal Corporation	No	Yes
Ngarluma People	Ngarluma Aboriginal Corporation	No	Yes
Ngarluma/Yindjibarndi	Ngarluma Aboriginal Corporation, Yindjibarndi Aboriginal Corporation, Ngarluma Yindjibarndi Foundation Ltd	No	Yes
Nyangumarta People (Part A)	Nyangumarta Warrarn Aboriginal Corporation	No	Yes
Nyangumarta-Karajarri Overlap Proceeding (Yawinya)	Nyangumarta Karajarri Aboriginal Corporation	No	Yes
Rubibi Community	Yawuru Native Title Holders Aboriginal Corporation	No	Yes
Thalanyji	Buurabalayji Thalanyji Aboriginal Corporation	No	Yes
Wong-Goo-Tt-Oo	Via Murujuga Aboriginal Corporation	No	Yes
Malgana Part A	Malgana Aboriginal Corporation	No	Yes
ILUA			

Claim/determination/ ILUA	Registered Native Title Body Corporate	Overlap with EMBA	Coastally adjacent to EMBA
Cape Preston Project Deed (YM Mardie ILUA)	Wirrawandi Aboriginal Corporation	Yes	Yes
KM & YM ILUA 2018	Wirrawandi Aboriginal Corporation, Robe River Kuruma Aboriginal Corporation	Yes	Yes
Kuruma Marthudunera and Yaburara and Coastal Mardudhunera ILUA	Yamatji Marlpa Aboriginal Corporation (YMAC)	Yes	Yes
Malgana Aboriginal Corporation Conservation Estate ILUA	Malgana Aboriginal Corporation	Yes	Yes
Ningaloo Conservation Estate ILUA	Nganhurra Thanardi Garrbu Aboriginal Corporation	Yes	Yes
Quobba – Yinggarda Pastoral ILUA	Yinggarda Aboriginal Corporation	Yes	Yes
Whadjuk People ILUA	South West Aboriginal Land and Sea Council Whadjuk Aboriginal Corporation	Yes	Yes
Nganhurra Thanardi Garrbu Aboriginal Corporation Conservation Estate ILUA	Nganhurra Thanardi Garrbu Aboriginal Corporation	Yes	Yes
Alinta-Kariyarra Electricity Infrastructure ILUA	Kariyarra Aboriginal Corporation	No	Yes
Anketell Port, Infrastructure Corridor and Industrial Estates Agreement	Ngarluma Aboriginal Corporation	No	Yes
Ashburton Salt Project ILUA (Body Corporate Agreement)	Yamatji Marlpa Aboriginal Corporation (YMAC)	No	Yes
Cape Preston Project Deed (YM Mardie ILUA)	Wirrawandi Aboriginal Corporation	No	Yes
Cape Preston West Export Facility	Wirrawandi Aboriginal Corporation	No	Yes
Eco Beach ILUA	Yawuru Native Title Holders Aboriginal Corporation	No	Yes
FMG – Kariyarra Land Access ILUA	Kariyarra Aboriginal Corporation	No	Yes
Great Sandy Desert Project ILUA – Infrastructure	Karajarri Traditional Lands Association (Aboriginal Corporation)	No	Yes
Karajarri Traditional Lands Association KSCS Eighty Mile Beach ILUA	Karajarri Traditional Lands Association (Aboriginal Corporation)	No	Yes
Kariyarra and State ILUA	Kariyarra Aboriginal Corporation	No	Yes
Macedon ILUA	Buurabalayji Thalanyji Aboriginal Corporation	No	Yes
Ngarla Pastoral ILUA	Wanparta Aboriginal Corporation	No	Yes
Ngarla Prescribed Body Corporate KSCS ILUA	Wanparta Aboriginal Corporation	No	Yes

Claim/determination/ ILUA	Registered Native Title Body Corporate	Overlap with EMBA	Coastally adjacent to EMBA
NKAC KSCS Eighty Mile Beach ILUA	Nyangumarta Karajarri Aboriginal Corporation	No	Yes
Nyangumarta Karajarri and Anna Plains Station ILUA	Nyangumarta Karajarri Aboriginal Corporation	No	Yes
Nyangumarta Karajarri and Mandora Station ILUA	Nyangumarta Karajarri Aboriginal Corporation	No	Yes
Nyangumarta PBC KSCS ILUA	Nyangumarta Warrarn Aboriginal Corporation	No	Yes
Nyangumarta Warrarn Aboriginal Corporation & Mandora Pastoral Lease ILUA	Nyangumarta Warrarn Aboriginal Corporation	No	Yes
Nyangumarta Warrarn Aboriginal Corporation & Wallal Downs Pastoral Lease ILUA	Nyangumarta Warrarn Aboriginal Corporation	No	Yes
RTIO Kuruma Marthudunera People ILUA	Robe River Kumura Aboriginal Corporation	No	Yes
RTIO Ngarluma ILUA (Body Corporate Agreement)	Ngarluma Aboriginal Corporation	No	Yes
Yawuru Area Agreement ILUA	Yawuru Native Title Holders Aboriginal Corporation	No	Yes
Yawuru Nagulagun / Roebuck Bay Marine Park ILUA	Yawuru Native Title Holders Aboriginal Corporation	No	Yes
Yawuru Prescribed Body Corporate ILUA – Broome	Yawuru Native Title Holders Aboriginal Corporation	No	Yes
Gnarloo ILUA	Yamatji Marlpa Aboriginal Corporation (YMAC)	No	Yes

4.9.3 Marine and National Parks

No marine parks overlap the Operational Area; however, the EMBA overlaps a number of Australian marine parks (Commonwealth) and Western Australian (State) marine parks (refer to Section 4.8). Where these plans specify identifiable representative bodies who may hold knowledge of heritage values or cultural features – including but not limited to Registered Native Title Bodies Corporate – these bodies are consulted (Section 5). Consultation with these groups may identify heritage values and cultural features beyond those addressed in the marine park management plans.

Table 4-17: Summary of the overlap of the Operational Area and environment that may be affected with the Australian marine park (Commonwealth) and State marine park management plan areas

Marine park management plan	Operational Area overlap	EMBA overlap	Specified bodies
Australian Marine Park Management Plan (Commonwealth)			
Montebello AMP	No	Yes	Yamatji Marlpa Aboriginal Corporation
Argo-Rowley Terrace AMP	No	Yes	No identifiable body specified
Gascoyne AMP	No	Yes	Yamatji Marlpa Aboriginal Corporation
Mermaid Reef AMP	No	Yes	No identifiable body specified

Marine park management plan	Operational Area overlap	EMBA overlap	Specified bodies
Ningaloo AMP	No	Yes	Yamatji Marlpa Aboriginal Corporation, Nganhurra Thanardi Garrbu Aboriginal Corporation
Shark Bay AMP	No	Yes	Yamatji Marlpa Aboriginal Corporation
State Marine Park Management Plan			
Barrow Island Marine Management Area	No	Yes	No identifiable body specified
Barrow Island Marine Park	No	Yes	No identifiable body specified
Montebello Island Marine Park	No	Yes	No identifiable body specified
Muiron Island Marine Management Area	No	Yes	No identifiable body specified
Ningaloo Marine Park	No	Yes	Yamatji Marlpa Aboriginal Corporation, Nganhurra Thanardi Garrbu Aboriginal Corporation
Rowley Shoals Marine Park	No	Yes	No identifiable body specified
National Park Management Plan			
Murujuga National Park	No	Yes	Murujuga Aboriginal Corporation
Cape Range National Park	No	Yes	Yamatji Marlpa Aboriginal Corporation
Dirk Hartog Island National Park	No	Yes	Malgana Aboriginal Corporation

Woodside considers the management plans of marine parks that overlap the Operational Area and the EMBA, to both determine whether cultural features and heritage values were identified, and whether there are specified Traditional Custodians or representative bodies referenced to contact regarding potential cultural features and heritage values. For completeness, Woodside considers cultural features and heritage values identified in the management plans, where EP-relevant Traditional Custodians or representative bodies are represented. These values are outlined in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

Murujuga National Park (Section 4.9.4) is owned by Murujuga Aboriginal Corporation (MAC) and jointly managed with DEC. The plan states its objective "to make sure that traditional skills and knowledge associated with looking after culture and country, and Ngarda-ngarli cultural rules on how decisions should be made, continue to be respected and maintained".

Management plans for the AMPs note shipwrecks within the AMPs and overlap with World, National and Commonwealth Heritage lists. Similarly, a number of management plans for the State marine parks also note First Nations and maritime heritage within the marine parks. For further details refer to Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

4.9.4 Murujuga Cultural Landscape

Murujuga is a significant cultural landscape rich with heritage values, included on Australia's National Heritage list and World Heritage List. The landscape encompasses one of the largest, densest and most diverse collections of rock art in the world, estimated to contain over a million engravings (petroglyphs) demonstrating a broad range of styles and subjects. The landscape also boasts various archaeological sites including quarries, middens, fish traps, rock shelters, ceremonial sites, artefact scatters, grinding patches and stone arrangements that evidence tens of thousands of years of human occupation. These significant places are linked through the stories, knowledge and customs maintained by Traditional Custodians of Murujuga.

This Cultural Landscape has global significance and is on the UNESCO World Heritage List.

National Heritage Place – Dampier Archipelago

The Dampier Archipelago, including Murujuga, was included in the National Heritage List in 2007. Values listed against National Heritage criteria in the gazettal notice include:

- Engravings of a wide range of terrestrial, avian and marine fauna. These provide an "outstanding visual record of the course of Australia's cultural history through the Aboriginal responses to the rise of sea levels at the end of the last Ice Age"
- Engraved "archaic faces" which demonstrate the long contact between Aboriginal societies on the Dampier Archipelago and inland arid Australia
- Diversity in representation of the human form in engravings, including depictions of groups of people "engaged in both mundane and sacred activities"
- Standing stones, stone pits and circular stone arrangements associated with various uses
- Ability to link research on archaeological remains (middens, grinding patches, quarries) and associated rock engravings to "contribute to an understanding of the cultural and economic meaning"

Further detail of these values can be found in the publicly available Gazettal[2].

Murujuga National Park

Covering 4,913 hectares (44 per cent) of the Burrup Peninsula on the Pilbara coast of WA, the land is privately owned by the Murujuga Aboriginal Corporation and jointly managed with DBCA as a national park (DBCA, 2024). The park is managed under the Murujuga National Park management plan (2013). The management plan created by Ngarda ngarli and their joint management partners will seek to ensure the protection of the area and to revive Ngarda-ngarli knowledge, associations and responsibility. This plan acknowledges the coexistence of Woodside production facilities and the Park identifying its objective to 'To promote effective, integrated and cooperative management between Murujuga National Park and adjacent land managers' (Department of Environment and Conservation, 2013).

In 2007, the Australian Government signed a Conservation Agreement with Woodside Energy Ltd to protect and research the National Heritage values of the Dampier Archipelago. In July 2017, Woodside signed the 'Ngajarli (Deep Gorge) Joint Statement' reaffirming the cooperative commitments made under each of the Conservation Agreement.

World Heritage Listing

UNESCO "seeks to encourage the identification, protection and preservation of cultural and natural heritage around the world considered to be of outstanding value to humanity" via the World Heritage List, established under the World Heritage Convention 1972 (UNESCO, 2024). The Murujuga Cultural Landscape was nominated by the Federal Department of the Environment and Energy in 2020 and was inscribed on the UNESCO World Heritage List on 11 July 2025. This property is comprised of 99,881 hectares, includes 8356 hectares of the Burrup Peninsula, 42 islands of the Dampier Archipelago and adjacent marine areas.

Universal values of the Murujuga Cultural Landscape World Heritage Property include:

- Petroglyphs which demonstrate artistic achievement assembled over 50,000 years. The petroglyphs are visually outstanding, demonstrate technical skill, and represent multiple phases in the development of regional and local styles.
- The Murujuga Cultural Landscape bears testimony to the living cultural traditions of Ngarda-Ngarli and the spiritual relationship between people and landscape that is at least 50,000 years old.
- The Murujuga Cultural Landscape is an outstanding example of human interaction with the environment over at least 50,000 years. The landscape is patterned by this long-term presence persisting through irreversible environmental and climatic changes.

Murujuga Cultural Landscape was inscribed under Cultural Criteria i, iii and v.

[2] https://www.dcceew.gov.au/sites/default/files/env/pages/d53ee213-2f1e-481e-b0f6-85d861a52de2/files/10572701.pdf

Further information on the Murujuga Cultural Landscape can be found on the publicly available UNESCO World Heritage Listing.[3]

As stated by the State Department of Biodiversity, Conservation and Attractions, "World Heritage Listing also brings a commitment at local, state and national levels to protect and manage the property for present and future generations." World Heritage listing and industry can occur in parallel, as long as there are no significant impacts on World Heritage values.

There is no publicly available management plan for the for the recently inscribed Murujuga Cultural Landscape World Heritage Property. However existing laws and regulations in place for Murujuga will remain and continue to guide management. There is also the Murujuga Cultural Landscape Strategic Management Framework.[4]

Current Condition of Murujuga Cultural Landscape

The current condition of the Murujuga Cultural Landscape has been assessed from publicly available sources.

The World Heritage Submission for Murujuga Cultural Landscape (MAC, DBCA, DEE 2020) noted, with regards to the Statements of Integrity and/or Authenticity:

"Aboriginal cultural landscapes are living landscapes that change as time progresses, where oral tradition is the canon of proof and where changing practices of embodied experience with landscapes grow from generation to generation" (Andrews and Buggey 2008).

In the context of Aboriginal cultural landscapes, any test of authenticity must recognise, expect, and endorse changes (Andrews and Buggey 2008). The archaeological and anthropological evidence for Murujuga is well preserved, with a high degree of authenticity. The exceptionally well-preserved cultural values of Murujuga can be found across an area of more than 37,000 hectares, comprising the majority of the Burrup Peninsula, as well as the surrounding islands of the Dampier Archipelago…

The petroglyphs of Murujuga have been made on the exceptionally hard, dark volcanic rock using stone tool technology. Methods of production included pecking, abrasion, incision and bas-relief. When first produced the very pale grey petroglyphs would have contrasted starkly with the dark red-brown cortex of the rock. With subsequent patination and weathering, this contrast gradually reduces.

Murujuga has a high level of integrity and received enhanced protection and management following its National Heritage listing in 2007. A detailed land-use impact study of Murujuga documented that all 40 islands included in the Dampier Archipelago (including Burrup Peninsula) National Heritage place and approximately 85 per cent of the Burrup Peninsula, retain extremely high integrity (McDonald and Veth 2006a), and contain all the attributes that constitute the potential Outstanding Universal Value of the place.

Within the National Heritage listed area, the petroglyphs are whole and intact (Jo McDonald Cultural Heritage Management 2009, 2011). Although the entirety of Murujuga has not been surveyed and recorded, there are thousands of known sites which demonstrate the potential Outstanding Universal Value of the Murujuga Cultural Landscape.

While industrial development visually compromises some areas of the southern section of the Burrup Peninsula, the topography, with its deeply dissected gorges, valleys and scree slopes, means that a large portion of Murujuga, including the vast majority of its islands retain high visual integrity (Jo McDonald Cultural Heritage Management 2011, Australian Heritage Council 2012).

In summary, the Murujuga Cultural Landscape is an intact and representative example of one of the most significant concentrations of human artistic creativity in the world, which survives through the continuity of Ngurra-ra Ngarli cultural and social practices and active management."

The Report "The Potential Outstanding Universal Value of the Dampier Archipelago Site and Threats to that Site - A report by the Australian Heritage Council to the Minister for Sustainability, Environment, Water, Population and Communities" (Australian Heritage Council 2012) found that:

[3] https://whc.unesco.org/en/list/1709

[4] https://library.dbca.wa.gov.au/static/FullTextFiles/158097.pdf

"It is clear that the undisturbed area within the boundaries of the National Heritage Listed place is complete and whole, notwithstanding the proximity of industry"

The Australian Heritage Database listing for the Nationally Heritage Listed Damper Archipelago (including Burrup Peninsula) states:

"Condition: Parts of the area, particularly the Burrup Peninsula, East Intercourse Island and Mid East Intercourse Island, have been subject to industrial development and other impacts such as the construction of towns and work camps. A land use impact assessment, undertaken using aerial photographs from August 2004, estimates that high levels of impact have occurred on 1,643 hectares (or 16.4 square kilometres) on the Burrup Peninsula (McDonald and Veth 2006). A high level of impact in these areas on the Burrup Peninsula has resulted in the destruction of archaeological material and in some cases the relocation of engravings and other stone features. Despite this, the natural and cultural heritage in Dampier Archipelago and its surrounding waters is in good condition" (DCCEEW 2007).

Murujuga Rock Art Strategy *(MRAS)*

The presence of industry on the Burrup Peninsula has been raised by some Relevant Persons during consultation (Appendix F).

In 2019, DWER released the Murujuga Rock Art Strategy (MRAS), "A monitoring, analysis and decision-making framework to protect Aboriginal rock art located on Murujuga (the Dampier Archipelago and Burrup Peninsula)" (DWER, 2019). The MRAS notes "This strategy builds on the previous work on Murujuga to deliver a scientifically rigorous approach to monitoring, analysis and management that will provide an appropriate level of protection to the rock art. The Murujuga Rock Art Monitoring Program (MRAMP), run by the Murujuga Aboriginal Corporation and Western Australian Department of Water and Environmental Regulation (DWER) is described as "A best practice monitoring and analysis program" by the Western Australian Government which "will provide reliable information on changes and trends in the condition of the rock art and whether the rock art is showing signs of accelerated change. The results from these studies will guide management and protection of the rock art" (Government of Western Australia, 2023).

In 2025, MRAMP published interim EQCs which set the initial levels of airborne substances which are considered to not cause harm to rock art (Curtin University, 2025). Woodside complies with the State government's requirements to ensure that our activities do not result in the region's emissions exceeding MRAMP EQC Standards. Interim Standards published by MRAMP indicated that activities in the region currently remain below this value. Interim EQC Guidelines exist to guide an ongoing management approach under the MRAMP framework for the region. Gas from the CLWH reservoirs currently accounts for less than 0.01% of the gas processed onshore at KGP therefore the contribution of Okha gas to onshore atmospheric emissions at KGP is considered inconsequential when compared to the 99.99% contributed by the NRC, GWA and Angel offshore facilities (See Section 6.6.7). A detailed summary of MRAMP and controls adopted at KGP under the MRAMP framework are covered in NRC Facility Operations EP, currently under revision by NOPSEMA.

4.9.5 Sea Country values

Sea Country values of marine ecosystems are further described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: (https://docs.nopsema.gov.au/A1196139). An impact to marine ecosystems has the potential to impact cultural values within Sea Country. Potential impacts to these cultural values are assessed in Section 6.

Woodside initiates consultation on cultural values of Sea Country where Traditional Custodians or representative institutions are identified, or self-identify, as relevant persons.

Cultural features or heritage values related to marine species within the Operational Area or EMBA raised by Traditional Custodians in the course of preparing the EP are outlined in Table 4-19. Sea Country values identified in publicly available literature are summarised Appendix C of the accepted Julimar Operations EP (https://docs.nopsema.gov.au/A1196139).

4.9.5.1 Desktop assessment of Sea Country values

Publicly available sources were assessed for any records of previously identified Sea Country values or cultural features that may overlap with the EMBA or Operational Area. Where cultural features or Sea Country values were identified, these are summarised in Appendix C of the accepted Julimar Operations EP (https://docs.nopsema.gov.au/A1196139). Table 4-18 according to the First Nations groups (where identified or inferable) who hold these values.

Table 4-18: Cultural features and heritage values identified in publicly available literature

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
Gnulli (Baiyungu, Thalanyji, Yinggarda)	Feature: resources including marine animals. Value: traditional knowledge holds that ancestors live on the land and in the water. Therefore, people have obligations to access and care for these places (e.g., keeping them clean).	FCA (2019)	Yes Possible (unspecified)	Yes Possible (unspecified)
	Feature: heritage sites in the Ningaloo region include shell middens, artefact scatters, skeletal material/burial sites, camps, meeting places, hunting places and water sources. Feature: resources including gajalbu (emu), bundgurdi (kangaroo), bardurra (bush turkey), majun (marine turtles), turtle eggs, bilygurumarda (osprey), fish, shellfish and plants. Feature: mudflats, mangroves and sand dunes provide a critical breeding ground for marine and terrestrial wildlife. Value: the Ningaloo region contains cultural heritage dating back at least 32,000 years, including ceremonial thalu sites. Value: connection to Country is important to the Traditional owners' spirituality and religion. Value: caring for Country - "The southern coastal reserves along the Ningaloo Coast are jointly managed by Traditional Owners and the DBCA. The Joint Management Body ensures that the Traditional Owners have an opportunity to make decisions about environmental management and land use". This document also includes information that is marked that cannot be copied, reproduced or used without consent.	DBCA (2020)	No No (Possible, fish and marine turtles only) No No Possible (unspecified) No (location specific)	Possible (shoreline accumulation only) No (Possible, fish and marine turtles only) Possible (shoreline accumulation only) Possible (shoreline accumulation only) Possible (unspecified) Possible (shoreline accumulation only)
	Feature: resources including mangrove crabs, gastropods, shellfish, dugong, turtle.	Morse (1993)	Possible (turtles only, no to all other resources)	Possible (all)
Thalanyji	Feature: resources including fish, shellfish, crabs, crustaceans, sea urchins, turtle, dugong and flora and fauna associated with mangrove communities. Feature: archaeological sites on Barrow Island. Value: connection to Country.	Commonwealth of Australia (2002)	No (mangrove specific species) No Possible (unspecified)	Possible (all) Possible (shoreline accumulation only) Possible (unspecified)
	Feature: resources include turtles, eggs, fish, shellfish and plants.	DBCA (2002)	Possible (No – eggs and plants)	Possible

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
	Value: traditional knowledge recalls a water snake is located in inland waters.	FCA 1487 (2008)	No (not inland)	No (not inland)
	Value: connection to Country. Value: transfer of knowledge. Value: access to Country.	DBCA (2022)	Possible (all – unspecified) (No access restrictions beyond Operational Area)	Possible (all – unspecified) (No access restrictions beyond Operational Area)
	Value: access to Barrow and possibly Montebello Islands	Hook et al. (2004)	No (No access restrictions beyond Operational Area)	No (No access restrictions beyond Operational Area)
	Feature: artefact scatters are located in coastal sand dunes. Feature: burials are located in coastal sand dunes. Value: traditional knowledge recalls a water snake is located in inland waters.	Hook (2020)	No (all)	Possible (shoreline accumulation only)
	Feature: archaeological sites are located on Barrow Island.	Ditchfield et al. (2018) Paterson (2017)	No	Possible (shoreline accumulation only)
	Feature: archaeological sites are located at Barrow and Montebello Islands. Feature: archaeological evidence of the use of resources including fish, turtles, marine mammals, crocodiles, crabs and sea urchins.	Dortch et al. (2019)	No (location specific) No	Possible (shoreline accumulation only)
	Feature: thalu ceremonial sites for the increase of turtle, shark, ray, fish, squid, octopus, hill kangaroo and emu. Feature: ceremonies. Value: connection to Country. Value: transfer of knowledge. Value: access to Country.	DBCA (2022)	Possible (all – unspecified)	Possible (all – unspecified)
	Value: coastal areas used for hunting, fishing and camping	FCA (2013)	No	Possible (shoreline accumulation only)

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
Gogolanyngor Aboriginal Corporation Jabirr Jabirr and Ngumbarl	Features: Lurujarri Dreaming Trail Ngu nungurrukun (Coconut Well) Judinnang (the ocean reef) and the Lurujarri (coastal dunes) Gudurlwarany (Brolga) Lindalinda (Jabiru) Galbany (mullet) and Walgawalga (salmon) Wader birds Wirrkinymirri (Willie Creek) Saltwater crocodiles. Linygoorr will usually feed on Wangkaja (mangrove crab) and fish Biyalbiyal (mangrove) trunks	FCA (2007)	No	Possible (shoreline accumulation only)
	Value(s): Resources including: Turtle (1) Dugong (2) Stone at Yalun or Cone Bay (3) Gulngarriny or yams and madilang tubers at Long, Mermaid, Pascoe and other islands (4) Trochus, clams, oysters (5) Fish (6) Sugarbag (native honey) (7)	Goolaraboolo n.d	Possible (1 and 6) No (all other values)	Possible (1, 2, 5, 6) No (all other values)
Karajarri Traditional Lands Association (Aboriginal Corporation)	Value: Cultural sites (Coastal and Inland) There are significant cultural sites in coastal and inland areas that are regularly used and maintained by Karajarri people. These sites include fish traps, Ceremonial Increase sites, ceremonial areas and Pulany (mythical Serpent) sites.	Karrajari Traditional Lands Association (2014)	No	No

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
	Value: Eighty Mile Beach Value: Roebuck Bay Karajarri coastal land is bound by Malampurr (Eighty Mile Beach) to the south and Roebuck Bay to the north, both which have both been designated as "Wetlands of International Importance" under the Ramsar Convention.		No	No
	Value: Obligation to Care for Country Karajarri people view their environmental responsibilities as Palanapayana Tukjana Ngurra meaning "everybody looking after country properly" and that this obligation is from Yatangal (spiritual conception). Karajarri believe they are born with a binding responsibility to care for their country.		Unlikely	Possible (unspecified)
	Value: Marine/ Coastal resources Vlaue: Intergenerational Knowledge sharing Some important Karajarri places are not considered sacred but are regularly used by Karajarri to utilize the resources of the land. Places such as Warlpi (camping sites), fishing spots or Kurrjungu (stone fish traps) are important for Karajarri and are used by people to maintain their connection to their country and harvest resources from the land and sea. These places are important for teaching younger Karajarri people about their own history and the cultural activities they can conduct in different locations.		Possible Possible	Possible Possible
	Value: Saltwater habitats (Reef, Deep Sea) Value: Marine Resources Karajarri saltwater habitats include Wintirri (sandy beaches, dunes and cliffs), Wangku (rocky headlands), Puntu (intertidal mudflats/freshwater seepages), Parnany (reefs) and Wankurru (deep sea). All of these areas are valuable to Karajarri people because of the resources they provide and their cultural importance.		Possible (Deep Sea) Possible	Possible Possible

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
	Value: Saltwater habitats Value: Turtles (Egg laying) Value: Seagrass Karajarri want saltwater habitats protected into the future. Internationally important migratory species use the intertidal zone and beaches for resting, feeding and laying eggs. The Wirntirri (sea grass beds) and beaches are important for Wilarr (particularly Flatback and Green Turtles) and need protection from disturbance by vehicles and tourists		Possible No (Egg laying)	Possible (all)
	Value: Seagrass, Seaweed Value: Reef Value: Fish (resource) Areas of Parnany (reef), Wirntirri (sea grass) and Wurrja (seaweed) along the Karajarri coastline provide important habitats for fish and other marine species that contribute to the diet of Karajarri people.		Possible (Fish only)	Possible (all)
	Value: Marine Resources Value: Archaeological sites (Fishtraps and middens along the Karajarri coast) Karajarri saltwater systems provide important food resources for the Karajarri people. Fishtraps and middens along the Karajarri coast show the historic cultural importance of saltwater resources. Fishtraps are still in use today and require ongoing maintenance. Use of saltwater resources varies across seasons.		Possible No	Possible No (location specific)
	Value: Pangunu (Blue-nosed Salmon)		No	Possible
	Value: Pirrala (Threadfin Salmon)		No	Possible
	Value: Important saltwater resources are Ulu (Bluebone Groper), Yilany (Mangrove Jack), Wangkaja (Mudcrab), Janga (Oyster) and Riji (Pearl Shell) Rijii or Jakuli (Pearl Shell) is important to the regional economy as well as of great cultural significance to the people of the Kimberley.		No	Possible (all resources)

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
Kariyarra Aboriginal Corporation	Value: traditional knowledge recalls that a salt water serpent lives in the sea and brings fish to shore.	Zaunmayr (2016)	Possible (unspecified)	Possible (unspecified)
Malgana Aboriginal Corporation	Feature: resources including bobtail, long-tail, mull-hawk, bird eggs (shags [cormorants], seagull, divers), turtle eggs, dugongs, turtle, mullet, bluebone, whiting, snapper, oysters, mussels, crabs, prawns, scallops, cockles, little 'redies', black snapper and mallee fowl.	Oxenham on behalf of the Malanga People v State of Western Australia (2018)	Possible (turtle)	No (bob tail, long tail, bird eggs, mallee fowl) Possible (all other values)
	Value: access to Country	-	No	No (No access restrictions beyond Operational Area)
	Feature: resources including dugong, green and loggerhead turtles and sharks.	Statton et al. (2021)	Possible	Possible
	Value: traditional knowledge maintains records of freshwater seeps in the submerged landscape.		No	No
	Feature: resources including fish, shellfish, turtles and dugong.	Briggs and Green, (2008)	Possible	Possible (all)
	Feature: archaeological sites.		No	Possible (shoreline accumulation only)
	Feature: green sea turtles, dugongs, shags and bottlenose dolphins are species of cultural significance.	Malgana Land and Sea Management et al. (2021)	No (dugongs) Possible (all other values)	Possible (all)
	Value: sharing and controlling the sharing of knowledge.	Lyons et al. (2021)	N/A	N/A

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
Murujuga Aboriginal Corporation (MAC) Ngarda-Ngarli (Mardudhunera, Ngarluma, Wong-Goo-Tt-Oo, Yaburara and/or Yindjibarndi)	Feature: archaeological sites on Murujuga. Feature: ceremonial sites. Feature: dreaming sites.	Department of the Environment and Heritage (2006)	No (all)	Possible (shoreline accumulation only)
	Value: traditional knowledge recalls that the sea is a source of creation for flying foxes. Value: petroglyphs are understood as permanent signs left by ancestral beings. Value: petroglyphs depict the law. Value: cultural obligations to look after places of special potency. Value: petroglyphs are important in initiation and education.	DEC (2013_	Possible (cultural olibgation - unspecified) No (all other values)	Possible (cultural olibgation - unspecified) No (all other values)
	Value: the sea is acknowledged a starting point for songlines, including the flying fox songline.	MAC (2023a)	Possible (unspecified)	Possible (unspecified)
	Feature: resources including fishes, turtles and dugong. Value: traditional knowledge recalls a sea serpent which travelled from the coast to inland pools.	Water Corporation (2019)	Possible (fish, turtles) No (dugongs) Possible (unspecified)	Possible (all) Possible (unspecified)
	Value: traditional knowledge recalls a water serpent from the ocean now lives in an inland pool. He created many sites and punishes law breakers. Value: In a separate account a sea serpent punishing people was driven back to the sea by a freshwater serpent.	Barber and Jackson (2011)	No	Possible
	Value: traditional knowledge recalls Manggan created the seas.	NAC n.d.	Possible (unspecified)	Possible (unspecified)
	Value: traditional knowledge recalls Pannawonica Hill being carried from the sea near Barrow Island or Murujuga by a spirit bird.	Hook et al (2004)	No	No
	Value: traditional knowledge recalls Murujuga is where ancestral beings emerged from the sea and brought the Law.	Australian Heritage Council (2012)	No	Possible (unspecified)
	Feature: Submerged First Nations archaeological sites in Cape Bruguieres channel.	Benjamin et al (2020)	No	No
	Feature: Submerged First Nations archaeological sites in Cape Flying Foam Passage.	Benjamin et al (2023)	No	No

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
	Value: traditional knowledge recalls Maarga (creation ancestors) lifted the land and sky out of the ocean.	Milroy and Revell (2013) Japingka Aboriginal Art Gallery (2023)	No	Possible (unspecified)
	Feature: submerged waterholes related to the Kangaroo songline. Value; traditional knowledge holds that Songlines continue beyond the current coast and across the submerged landscape.	Kearney et al (2023)	No	Possible (unspecified)
	Value: songlines are captured through storytelling, rock art, songs and dance, and in the landmarks themselves. Value: Murujuga is the start of many songlines, including the Seven Sisters.	Bainger (2021)	No No	Poiossible (unspecified) Possible (shoreline accumulation only)
	Value: songlines at Murujuga date back to times when the sea-level was lower.	MAC (2023b)	Possible	Possible
	Feature: rock art Feature: sacred sites	Weerianna Street Media Production (2017)	No Possible (unspecified)	Unlikely to occur (submerged only)
	Feature: resources including fish, turtles. Feature: fish traps exist throughout the archipelago. Feature: shell middens exist on coastal margins. Feature: submerged archaeological sites. Value: Law emerged from the sea and travelled inland.	Leach (2020)	Possible No No No Possible (Unspecified)	Possible Possible (Shoreline accumulation only) Possible (Shoreline accumulation only) Possible Possible (unspecified)
	Feature: resources including mangrove seeds, turtles, turtle eggs). Value: ceremonies were conducted on islands.	Smyth (2007)	Possible (turtles only) No	Possible (all) Unlikely (unspecified)
	Feature: archaeological sites on Murujuga.	McDonald (2015) McDonald (2023)	No	No

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
	Feature: archaeological sites on Enderby Island.	McDonald et al (2022a)	No	No
	Feature: archaeological sites on Rosemary Island.	McDonald et al (2022b)	No	Unlikely (Shoreline accumulation only)
Nimanburr Aboriginal Corporation	Value: Valentine Island	Marshall (2020)	No	No
Nyangumarta Karajarri Aboriginal Corporation	Value: Connection to Country and Sea Country (responsibility to look after, the sea and coastline within the claim area)	WC2000/002-1 (2000)	No	No
	Feature/Value: 'The Pukarrikarrajanka Dreaming', and spiritual beings continue to inhabit specific places including area Eighty Mile Beach Marine Park.	Department of Parks and Wildlife (2014)	No	No
	Features: Reefs, coastal creeks, mangroves and intertidal flats Fish traps and shell middens		No	Possible
	Value: Stories, songlines and sites are embedded within the Eighty Mile Beach and Cape Keraudren areas		No	No
	Value: Cultural obligation to protect and educate visitors on Eighty Mile Beach,		No	No
	Feature/Value: Resource collection at thalu sites. Eighty Mile Beach contains important cultural sites including special sites known as 'increase sites'		No	No
	Value: Customary use of the area includes camping, nature appreciation, fishing, hunting and other harvesting activities. Fish [hunting] Turtle [hunting]		No	No (location specific – Eight Mile Beach)
	Feature: Archaeological sites at Eighty Mile Beach	Yu (1999)	No	No
	Value: Strong spiritual relationship to water; connection to Sea Country		Possible (unspecified)	Possible (unspecified)
	Value: Dreamtime stories associated with water sources and their significance		Possible (unspecified)	Possible (unspecified)
	Feature: Resource collection including from ground water springs, coast old shell middens, fish traps and fishing (associated with the sea's fertility).	Weir (2011)	No	Possible (Fishing only)

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
	Value: two rocks (unspecified) on the coast associated with cultural stories and lessons about tide and reef safety.	Yamatji Marlpa Aboriginal Corporation (2016)	No	Possible (unspecified – shoreline accumulation only)
	Value: spinifex and mangrove leaves used for resource collection and eating practices.		No	No
	Feature: Eighty Mile Beach important place for the movement of the Karajarri people in the claim area including coastal areas for ritual and economic purposes.	WC08/4 (2009)	No	No
	Value: Eighty Mile Beach (strong connection to the place and surrounding waters)	Nyangumarta Warrarn Aboriginal Corporation and Yamatji Marlpa Aboriginal Corporation (2022)	No	No
	Feature: The coastline dotted with sites of special significance; several of these sites are associated with The Dreaming (Pukarrikarra).		No	Possible (unspecified, shoreline accumulation only)
	Value: majority of the Nyangumarta population live by the sea and use it for cultural and recreational purposes as well as supplementing the household diet through fresh fish such as whiskered salmon, black tipped reef shark, saw fish, stingrays and oysters.		Unlikely to occur	Possible
	Feature: Many sites are believed to be created and inhabited by Pulany (powerful mythical water snakes) and how these places are approached and managed is important.		Possible (unspecified)	Possible (unspecified)
Nyul Nyul	Value: Tjukurrpa (Dreaming Story)	Indigenous Desert Alliance. n.d.	Possible (unspecified)	Possible (unspecified)
	Feature: Middens near the coast	Dobbs, et al. (2015)	No	No
	Feature: Burial grounds near the coast		No	No
	Value: Caring for Country including preserving routes for fish movement for breeding, and erecting signs		Possible (unspecified)	Possible (unspecified)
Yawuru	Feature: Camp sites including middens and shells		No	No

First Nations Group	Features and values	Source	Potential for Overlap	
			Operational Area	***EMBA***
	Feature: Snubfin Dolphin (1), fish including sharks and rays (2), and migratory birds (3)	Yawuru RNTBC (2014)	No (Snubfin Dolphin) Possible (all other values)	Possible (all)
	Value: Cultural obligation to care for country		Possible (unspecified)	Possible (unspecified)
	Value: Yawuru traditional ecological knowledge associated with sea Country resources		Possible (unspecified)	Possible (unspecified)
	Value: Reefs and sea-grass beds		Possible	Possible
	Value: Mangrove communities		No	Possible
	Value: Rights, access to and management of Country including the waters	FCA (2006)	Possible (unspecified)	Possible (unspecified)
	Value: Cultural obligations to respect the Dreaming and spirits and to continue cultural traditions	DBCA (2023)	Possible (unspecified)	Possible (unspecified)

4.9.5.2 First Nations archaeological heritage assessment

First Nations archaeological heritage in relation to the NWMR is described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

The Department of Planning, Lands and Heritage (DPLH) Aboriginal Cultural Heritage Inquiry system was searched for the EMBA, which indicated 103 Aboriginal Cultural Heritage Registered Sites (Appendix D). The exact location, access, and traditional practices for a number of these sites may not be disclosed and if required, such as in the event of a major oil spill, would involve prioritising further consultation with key contacts within DPLH and relevant local First Nations communities.

No sites of significance within the Operational Area or EMBA were identified by Traditional Custodians during consultation in the course of preparing the EP.

4.9.5.3 Underwater Cultural Heritage

Further information regarding First Nations archaeological heritage in relation to the Ancient Landscape in the NWMR is described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

All actions involving seabed contact, and most actions undertaken in proximity to the seabed, have potential to cause adverse impact to located or unlocated UCH (DCCEEW,2024c). Planned activities include seabed contact (see Section 4.7). Woodside engages a consultant to undertake a desktop review based on geophysical and bathymetric data, for the potential of submerged archaeological material, in any areas subject to new seabed disturbance. This approach is consistent with Assessing and Managing Impacts to Underwater Cultural Heritage in Australian Waters (DCCEEW, 2024c).

The seabed disturbance footprint from planned activities is expected to be limited to within the existing Operational Area and therefore have low potential for unlocated archaeological material. Management controls and further assessment of the potential impacts on archaeological material by the proposed activity is discussed in Section 6.6.2

4.9.5.4 Feedback received via consultation to inform Existing Environment Description

First Nations cultural values are communally held. This is reflected in Vision 3 of Dhawura Ngilan that “Aboriginal and Torres Strait Islander heritage is managed...according to community ownership” (Heritage Chairs of Australia and New Zealand, 2021). Dhawura Ngilan also specifically notes that “Aboriginal and Torres Strait Islander...intangible knowledge systems, which are held in songlines and language, are endangered. This knowledge is held by Elders and the community...” Through consultation with relevant persons, Registered Native Title Bodies Corporate have identified or raised topics relating to environmental values of cultural interest. These include a broad interest in the marine fauna, including whales and turtles (Table 2 in Appendix F)

Feedback received on potential cultural features and heritage values during consultation are described in Table 4-19.

Woodside has committed to ongoing engagement to further understand these values. Should feedback be received (including any relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its management of change and revision process (see Section 7.2.8)

Table 4-19: Summary of feedback received via consultation to inform Existing Environment Description

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	Raised during consultation for another EP	Value: Connection to Sea Country Enduring deep connection to sea country north of Onslow, extending out to Islands off the Pilbara coast such as the Montebello Islands, Barrow Island and the Mackerel Islands.	Possible	Possible
Gogolayngor Aboriginal Corporation	Raised during consultation for this EP	*No values raised*	-	-
Karajarri Traditional Lands Association	Raised during consultation for this EP	*No values raised*	-	-
Kariyarra Aboriginal Corporation (KAC)	Raised during consultation for another EP	Value: Turtles Validity of management controls over periods time.	Possible	Possible
		Value: Access to Sea Country (1) Accessing sea country for fishing, trapping, crabbing catching turtle, hunting dugong, using stingray barbs for spears and collecting shellfish. (2) Visiting offshore islands at low tide.	No (No restricted access beyond Operational Area)	No (No restricted access beyond Operational Area)
		Value: Marine species resources Resource species of cultural interest to Kariyarra people include marine mammals, fish, molluscs including bivalves, gastropods and cephalopods.	Possible	Possible
		Value: The existence of intangible cultural heritage, including the Yinta (associated with Sea Country) From Kariyarra Native Title documents, it is clear Yinta are significant cultural/spiritual sites, often a pool or water source but possibly a hill or other feature. These are, at least generally, associated with creation beings and are a core part of cultural rights to land in determining who can use or speak for an area.	Possible(unspecified)	Possible(unspecified)
		Interest: Coastal landforms (cultural interest)	No	No
		Interest: Coastal native vegetation (cultural interest)	No	No

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Feature: Cultural interest in cultural heritage sites associated with the coast and the ocean	No	No
		Value: Traditional fishing and gathering rights in the ocean	Possible(unspecified)	Possible(unspecified)
		Value: Cultural interest in intangible cultural heritage associated with the coast and the ocean (1) Presence of mythic snakes.	Possible(unspecified)	Possible(unspecified)
		Value: Intergenerational knowledge: *In addition to their immediate value as sustenance, the gathering and preparation of these resources are informed by cultural knowledge, and an inability to use these resources may result in a loss of ability to transfer that knowledge to future generations. Direct impact to communities using these resources will inherently occur when the resource disappears, is displaced or suffers a reduction in population. Therefore, these communities may be impacted where there is an impact at the species/population level. Impacts to resource collection would be limited to temporary exclusion in areas where there are hydrocarbons present, including shoreline accumulation. Relevant cultural authorities will be engaged in the event of a spill that may affect them...*	Possible(unspecified)	Possible(unspecified)
		Value: Cultural obligations to care for Country, including Sea Country Value: Secret habitat totems associated with Sea Country	Possible(unspecified)	Possible(unspecified)
		Interest: Assertion of sea rights in native title claim area Interpreted as general connection to Country, assertion of rights to access Country and cultural obligation to care for environmental values of Sea Country: (1) Having duties to look after and protect all KAC's Sea Country.	No	No (Native title area not within EMBA)
		Value: Whales (connection to songlines) Impacts to whale migration.	Possible (whales and songlines)	Possible (whales and songlines)
		Value: Sea turtle nesting	No	Possible (Shoreline accumulation only)
		Value: Food resources	Possible (unspecified)	Possible (unspecified)

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
Malgana Aboriginal Corporation	Raised during consultation for another EP	Feature: Shark Bay	No	No
		Feature: Stromatolites and microbial mats Shark Bay contains stromatolites and microbial mats that are among the oldest living in the world.	No (location specific)	No (location specific)
		Feature: Seagrass	No	Possible
Murujuga Aboriginal Corporation representing Ngarda-Ngarli people (Mardudhunera, Ngarluma, Wong-Goo-Tt-Oo, Yaburara and Yindjibarndi) (MAC)	Raised during consultation for another EP	Value: Mermaid Sound (1) The ecosystem health of Mermaid Sound.	No	No
		Value: Whales (1) Whales and other species of totemic importance need to be protected, including their populations, biodiversity, and migration patterns. (2) A whale Thalu is an increase at the totemic site that brings whales into the beach.	Possible (unspecified)	Possible (unspecified)
		Value: Dolphins There are cultural ceremonies associated with communicating with dolphins.	Possible (unspecified)	Possible (unspecified)
		Value: Dugongs Dugongs are a food source associated with seagrasses near Gidley Island.	Possible (unspecified)	Possible (unspecified)
		Value: Fish Specific mentions of fish included Thalu ceremonies associated with increasing fish stocks.	Possible (unspecified)	Possible (unspecified)
		Value: Sea snakes Sea snakes were specifically mentioned as culturally important species.	Possible	Possible

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Value: Turtles (1) Flatback, green, hawksbill, loggerhead and leatherback turtles; the songline associated with the turtle comes from Fortescue to Withnell Bay. This song is sung by four or five tribes for day and night without consuming food or water. (2) Flatback, green, hawksbill, loggerhead and leatherback turtles: They are culturally important species that moves through Mermaid Sound. Turtles are most often seen in shallower areas and where there are seagrasses. (3) Most beaches are nesting sites for turtles, including those on Gidley and Legendre Islands... which also identifies Rosemary Island as the most important hawksbill turtle nesting site in Western Australia.	Possible	Possible
		Feature: Coral (1) Fish are attracted to areas with coral. (2) Concerned about coral bleaching because corals are important. Beautiful colours. They also attract a lot of other things. Fish carry coral spawn like bees pollinate flowers. If fish were looked after, the corals would get brighter and brighter (by transmitting nutrients and performing other ecosystem services, fish can be symbiotic with corals). (3) Spawning events should be avoided (associated with full moon). (4) Locations identified during consultation include Withnell Bay; Conzinc Bay; south-west of Legendre Island.	No	Possible
		Feature: Seagrass (1) Seagrasses provide protection for animals. (2) Locations identified during consultation include Conzinc Island; between Angel and Gidley Islands.	No	Possible
		Feature: Mangroves (1) Mangroves would have provided shelter, crabbing, digging for shellfish, could be turtle nurseries. Locations identified during consultation include Conzinc Bay north end; Flying Foam Passage; Searipple Passage; north-east bay of West Lewis Island.	No	Possible

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Feature: Macroalgal communities Are important primary production sites, habitats, and food sources (not explicitly identified by elders).	Possible	Possible
		Feature: Subtidal soft-bottom communities Support invertebrate diversity (not explicitly identified by elders).	No	Possible
		Feature: Intertidal sand and mudflat communities Important primary production sites, support invertebrate diversity and provide food for shorebirds (not explicitly identified by elders).	No	Possible (shoreline accumulation only)
		Feature: Rocky shores Habitats for intertidal organisms and provide food for shorebirds (not explicitly identified by elders).	No	Possible (shoreline accumulation only)
		Feature: Other areas of Mermaid Sound of importance (including Conzinc Bay) (1) Fish traps: There are known fish traps in Conzinc Bay, and others would have or do exist in coastal areas of islands, such as Angel and Gidley Islands. People still use the Conzinc Bay fish traps regularly for catching mangrove jack, trevally and other fish.	No	No
		Value: Squid (1) Squidding (harvesting of squid from the ocean) around Conzinc Bay.	No (location specific)	No (location specific)
		Value: Appropriate cultural authority for Murujuga	No	Possible (shoreline accumulation only)
		Interest: Management of onshore heritage sites	No	Possible (shoreline accumulation only)
		Interest: Submerged heritage	Unlikely	Possible
		Value: Songlines The potential impact on Jinna (songlines) due to the lack of broader-scale bathymetric information for the submerged landscape.	Possible(unspecified)	Possible(unspecified)
		Value: Whales and whale sharks	Possible	Possible

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC) representing Baiyungu and Thalanyji people	Raised during consultation for another EP	Feature: Marine parks	No	Yes
Ngarluma Aboriginal Corporation (NAC)	Raised during consultation for another EP	Interest: Management of onshore heritage sites	No	No
		Interest: Submerged heritage	Unlikely	Possible
Nimanburr Aboriginal Corporation	Raised during consultation for this EP	*No values raised*	-	-
Nyangumarta Karajarri Aboriginal Corporation	Raised during consultation for this EP	*No values raised*	-	-
Nyangumarta Warrarn Aboriginal Corporation	Raised during consultation for another EP	Value: Eighty Mile Beach *Priority is to protect Eighty Mile Beach due to its cultural and ecological value to the Nyangumarta Custodians.*	No	No
		Value: Impacts of migrating birds (1), whales (2), turtles (3) and vegetation (4)	Possible (all)	Possible (all)
Nyul Nyul PBC Aboriginal Corporation	Raised during consultation for this EP	*No values raised*	-	-
Robe River Kuruma Aboriginal Corporation	Raised during consultation for another EP	Feature: Coastline	No	Possible
		Feature: Underwater heritage	Unlikely	Possible
Wanparta Aboriginal Corporation	Consultation for this EP	Value: Sea life (Sea Country) health Wanparta noted that water and sea life is important to the Ngarla people. It was said that a healthy marine life = an important food source = healthy people	Possible (unspecified)	Possible (unspecified)

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Value: Fish Wanparta are concerned with maintaining fish stock post operations.	Possible	Possible
		Value: Ethnohistorical evidence on islands Wanparta noted that there is ethnohistorical evidence of Ngarla occupation on islands (particularly Solitary Island/ Jarrkunpungu).	No	No
	Raised during consultation for another EP	Value: Connection to Sea Country The Ngarla People have a deep spiritual connection to Sea Country.	Possible (unspecified)	Possible (unspecified)
		Feature: Nearshore islands (particularly Solitary Island/Jarrkunpungu) Value: Intangible cultural heritage (Dreaming stories) (1) Wanparta stated that they are linked to the dreaming stories through the interconnecting islands. (2) Wanparta legal representative highlighted that there are Dreamtime stories through the nearshore island (Solitary Island/Jarrkunpungu).	No (location specific)	No (location specific)
		Value: Cultural obligation to look after Sea Country values Extremely important to Ngarla people, and they feel a responsibility to look after the ocean and lore.	Possible (unspecified)	Possible (unspecified)
		Feature: Sea (fresh and salt water) Value: Intangible cultural heritage (Dreaming stories) Comments that we are a sea people connected through both fresh and salt water with Dreamtime stories that do connect through the sea.	Yes	Yes
		Feature: Sea (ocean/water) *(1) Wanparta noted that they feel a sense of responsibility to keep looking after the ocean. They noted that they are very connected to the health of the ocean, they have a sense of responsibility to look after the ocean (Law and culture). If impacted, this would impact future generations and how Law is practiced.* Value: Marine life *(2) Protection and management of marine life and healthy ocean plays a significant role in lore, culture and customs.*	Yes (all)	Yes (all)

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Value: Totemic species *Wanparta legal representative explained the emblems and totems reflected on the Wanparta Aboriginal Corporation logo. The animals depicted on the logo are totemic species and include the (1) kestrel, (2) octopus, (3) spiny brim and (4) sting ray.*	Unlikely (all)	Possible (all)
Whadjuk Aboriginal Corporation	Raised during consultation for this EP	*Value: Coastline* *Whole coastline has symbolic areas (Noongar Tracks)*	No	Possible (Shoreline accumulation only)
		Value: Wadjemup (Rottnest Island) is an important spiritual place for Whadjuk.	No	Possible (Shoreline accumulation only)
		Value: Cultural connection to groups along the coast	Possible (unspecified)	Possible (unspecified)
		Value: Songlines, affiliations to cultural and Sea Country totems and seasonal fishing traditions	Possible (unspecified)	Possible (unspecified)
		Value: Migratory birds are sacred to Whadjuk people	Possible	Possible
Wirrawandi Aboriginal Corporation representing Ngarda-Ngarli (Mardudhunera and Yaburara) (WAC)	Raised during consultation for another EP	Value: Whales	Possible	Possible
		Value: Turtles	Possible	Possible
		Feature: Rock art	No	Unlikely (submerged)
		Interest: Submerged heritage (Impacts to the seabed)	Unlikely	Possible
Yinggarda Aboriginal Corporation	Raised during the course of consultation for another EP	Value: Coastal Fishing Local communities enjoy fishing along the coast, including for (1) Shark Bay Mullet that is an important resource.	No	No (1 – location specific)
		Value: Ecosystem Health *Plants, animals and the environment are inexorably linked to their culture*	No	Possible
		Value: Dugongs	Possible	Possible

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Value: Whales	Possible	Possible
		Feature: Seagrass Important foodscource for dugongs (Shark Bay)	Possible	Possible
Yindijibarndi Aboriginal Corporation	Raised during consultation for this EP	*No values raised*	-	-
NATIVE TITLE REPRESENTATIVE BODIES				
Kimberley Land Council (KLC)	Raised during consultation for this EP	*No values raised*	-	-
Yamatji Marlpa Aboriginal Corporation (YMAC)	Raised during consultation for this EP	*No values raised*	-	-
OTHER FIRST NATIONS GROUPS				
Ngarlma Yindjibarndi Foundation Limited (NYFL)	Raised during consultation for this EP	*No values raised*	-	-
Save Our Songlines, [Individual 1] and [Individual 5]	Consultation for this EP	See values raised below	-	-
	Raised specific to Petroleum Activities Program Raised in context of general Scarborough	Feature: Songlines, dreaming and energy lines (unspecified)	Possible (unspecified)	Possible (unspecified)
		Feature: Whales – including migratory patterns	Possible	Possible
		Interest: Turtles – including migration patterns	Possible	Possible
		Interest: Dugongs – unspecified	Possible	Possible
		Interest: Plankton – unspecified	Possible	Possible
		Interest: Seagrass – unspecified	No	Possible

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
	Project activities	Interest: Where saltwater and freshwater meet	No	Possible
	Raised in Concise Statement and Affidavit[3] in context of Scarborough	Value: Caring for Country [Individual 1] asserts she and [Individual 5] are holders of women's lore with cultural obligations to protect, preserve and promote the environment, animals and plants threatened by the Activity (specific to Seismic). [Individual 1] asserts the spiritual health and wellbeing of Murujuga and all the plants and animals present on Murujuga and connected to the songlines in and around Murujuga.	Possible (unspecified)	Possible (unspecified)

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
	seismic activities	Feature: Whales [Individual 1] asserts the following values: “Whales carry important songlines, the whale Dreaming, and connection between land and sea” "As the biggest animal on earth, the whale has the greatest heart connection to songlines, people and animals and carries the songlines around the ocean, connecting places." “Whale Dreaming story has a strong connection to the heart centre in each person, this story helps people to open up and to realise, understand and raise awareness of the environment and everything humans are connected to.” "In their own families, female whales have a caretaker or midwife role, and those who are connected to the Whale Dreaming and carry the women's lore also have obligations as caretakers of the earth." "The women's lore that [Individual 5] and [Individual 1] carry is the songline of the whale, which is important for sustaining the creation of all animals and humans." "[Individual 5] and [Individual 1] connect to the whales like this through their songlines, they sing to the whales, the whales feel that song and the connection through their hearts, regardless of the distance." "The whales tell [Individual 5] and [Individual 1] a story, and [Individual 5] and [Individual 1] are the people who feel and who are connected to that story. [Individual 5] and [Individual 1] have that feeling of connection inside them all the time, they live and breathe it, they are in and everything about it." "Because each animal uses songlines for migration, breeding and feeding, the disruption or distortion to the songlines causes the animals to become disoriented, confused or lost.”	Possible (whales) Possible (songlines, unspecified)	Possible (whales) Possible (songlines, unspecified)

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Interest: Whales Interest: Pygmy blue whales “Potential impacts on marine species and natural environment, relevant to the natural environment, relevant to the Applicant's interests, including but not limited to: ii. behavioural changes (leaving or avoiding the area where the Activity occurs) to turtles, pelagic fish (such as tuna and billfish), sharks, pygmy blue whales iii. whales' sonar communications systems, particularly between mothers and calves, from sound and vibrations emitted by the Activity v. potential impacts on water quality and consequent potential impacts on marine fauna such as whales, dugongs, sharks, rays, and seabirds from the risk of unplanned chemical discharges (non-hydrocarbon); and vi. vehicle collision and/or entanglement with marine fauna".	Possible (whales)	Possible (whales)
		Interest: Turtles "Other animals, such as turtles, dolphins, dugongs, and krill follow the whale's songlines, because they're all connected together – the whale creates a path for the other animals like 'grading a road'." “Potential impacts on marine species and natural environment, relevant to the natural environment, relevant to the Applicant's interests, including but not limited to: ii. behavioural changes (leaving or avoiding the area where the Activity occurs) to turtles, pelagic fish (such as tuna and billfish), sharks, pygmy blue whales v. potential impacts on water quality and consequent potential impacts on marine fauna such as whales, dugongs, sharks, rays, and seabirds from the risk of unplanned chemical discharges (non-hydrocarbon); and vi. vehicle collision and/or entanglement with marine fauna".	Possible (turtles)	Possible (turtles)

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Interest: Dugongs “Potential impacts on marine species and natural environment, relevant to the natural environment, relevant to the Applicant's interests, including but not limited to: v. potential impacts on water quality and consequent potential impacts on marine fauna such as whales, dugongs, sharks, rays, and seabirds from the risk of unplanned chemical discharges (non-hydrocarbon)”.	Possible (dugong)	Possible (dugong)
		Interest: Pelagic fish “Potential impacts on marine species and natural environment, relevant to the natural environment, relevant to the Applicant's interests, including but not limited to: ii. behavioural changes (leaving or avoiding the area where the Activity occurs) to turtles, pelagic fish (such as tuna and billfish), sharks, pygmy blue whales”.	Possible (fish)	Possible (fish)
		Interest: Sharks “Potential impacts on marine species and natural environment, relevant to the natural environment, relevant to the Applicant's interests, including but not limited to: ii. behavioural changes (leaving or avoiding the area where the Activity occurs) to turtles, pelagic fish (such as tuna and billfish), sharks, pygmy blue whales v. potential impacts on water quality and consequent potential impacts on marine fauna such as whales, dugongs, sharks, rays, and seabirds from the risk of unplanned chemical discharges (non-hydrocarbon)”	Possible (sharks)	Possible (sharks)
		Interest: Plankton “Potential impacts on marine species and natural environment, relevant to the natural environment, relevant to the Applicant's interests, including but not limited to: i. chronic mortality to some marine organisms, including zooplankton	Possible	Possible

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Interest: Water quality “Potential impacts on marine species and natural environment, relevant to the natural environment, relevant to the Applicant's interests, including but not limited to: iv. potential operational discharges associated with the presence of ships in the area, including potential impacts to water quality v. potential impacts on water quality and consequent potential impacts on marine fauna such as whales, dugongs, sharks, rays, and seabirds from the risk of unplanned chemical discharges (non-hydrocarbon)”.	Yes	Yes
		Interest: Seabirds “Potential impacts on marine species and natural environment, relevant to the natural environment, relevant to the Applicant's interests, including but not limited to: v. potential impacts on water quality and consequent potential impacts on marine fauna such as whales, dugongs, sharks, rays, and seabirds from the risk of unplanned chemical discharges (non-hydrocarbon)”.	Possible	Possible
		Interest: Where saltwater and freshwater meet "The places where the saltwater from the sea and the freshwater from the land connect are where the biggest energy lines[5] are, and that connection is a core of creation relevant to a Dreaming story."	No	No
		Value: Rock Art "Rocks at Murujuga symbolise stories, the totems (the depicted artwork) – whether representing plants or animals – and tell a story of their history, and how long they've been there."	No	Possible (submerged)
		Value: Bungarra, eagle, kangaroo Identified totemic species.	No	No

[5] Although [Individual 1] , [Individual 5] and Save our Songlines referred to and described Energy Lines, these are understood to be the same as songlines and this document therefore refers to songlines

Relevant First Nations Group / Individuals	Consultation Context	Description of Value / Feature / Interest	Potential for Overlap	
			Operational Area	***EMBA***
		Interest: Murujuga "When [Individual 5] and [Individual 1] and their people stand on Country they are connected to their songlines through the rocks. As holders of women's lore, [Individual 5] and [Individual 1] put healing energy into the rocks and use that to heal the songlines." "[Individual 5] and [Individual 1] connect to their bloodline, old people and songlines through Country, including the rocks at Murujuga, which are encrypted with ancient stories that keep connection to the bloodline and songlines alive and well."	No	Possible (shoreline accumulation only)

4.9.6 Summary of cultural features and heritage values

Woodside has developed a robust understanding of cultural features and heritage values relevant to the activity through examination of publicly available information, studies and consultation with relevant persons under regulation 25 of the Environment Regulations.

The cultural features and heritage values identified in Sections 4.9.1 to 4.9.7 confirm whether there is any potential for these to exist within the Operational Area or EMBA. As previously described, topics that have been raised in the context of an interest linked to the natural environment are impact and risk assessed in this EP.

Cultural features and heritage values identified through both consultation and desktop assessment is summarised in Table 4-20.

Table 4-20: Summary of cultural features and heritage values

Identified cultural features and heritage values	Context	EP Source		Potential for overlap	
		Consultation Feedback	***Desktop Literature Assessment***	***Operational Area***	***EMBA***
Archaeological Heritage and Landscapes					
Coastal/ island archaeological sites	Coastal archaeological sites include shell middens, artefact scatters, skeletal material/burial sites, camps, meeting places, hunting places and water sources.	✓	✓	No	Possible (shoreline accumulation only)
Petroglyphs	Petroglyphs are a form of rock art. Petroglyphs are a prominent feature particularly at Murujuga where it is found on hard, volcanic rock.	✓	x	No	Possible (submerged)
Fish traps	Stone arrangements constructed in intertidal areas which fill with fish at high tide and trap them at low tide.	✓	✓	No	Possible
Submerged archaeological sites	The Ancient Landscape extends between 125m and 130m below current sea level. Ancient occupation of this area may have left traces through now submerged archaeological sites.	✓	✓	Unlikely	Possible
Rivers, waterholes, tidal channels and seeps	Water sources on the Ancient Landscape which may be culturally significant or archeologically prospective.	✓	✓	No	Possible
Submerged hills	Hills on the Ancient Landscape which may be culturally significant or archeologically prospective. As sea level rose these hills would have become islands and eventually submerged.	x	✓	No	Possible
Intangible values					
Songlines	Publicly available literature talks to Songlines associated with ancestral beings that travelled Sea Country.	✓	✓	Possible (unspecified)	Possible (unspecified)
Creation/ Dreaming sites, sacred sites and ancestral beings	Publicly available literature talks to creation/dreaming and ancestral beings, including water serpents, connected to or originating from the sea generally.	✓	✓	Possible (unspecified)	Possible (unspecified)

Identified cultural features and heritage values	Context	EP Source		Potential for overlap	
		Consultation Feedback	***Desktop Literature Assessment***	***Operational Area***	***EMBA***
Ceremonial sites	Places where ceremony (e.g. thalu ceremonies) are performed. All identified ceremonial sites are located onshore.	✓	✓	No	Possible (unspecified)
Cultural obligations to care for Country	Cultural obligation to care for the environmental values of Sea Country. Exclusion of Traditional Custodians from Sea Country or decision making processes may inhibit ability to care for Country.	✓	✓	Possible (unspecified)	Possible (unspecified)
Knowledge of Country/ customary law and transfer of knowledge	The preservation and transmission of knowledge is dependent on the preservation of the environment generally. Exclusion of Traditional Custodians from Sea Country may inhibit the transfer of knowledge.	✓	✓	Possible (unspecified)	Possible (unspecified)
Connection to Country	Connection to Country is described in publicly available literature as “important to the Traditional owners’ spirituality and religion”. Connection to Country may be damaged where people are displaced or disrupted (e.g. during colonisation) or where there is a loss of technical skills or environmental knowledge	✓	✓	Possible (unspecified)	Possible (unspecified)
Access to Country	Limitations on Traditional Custodians accessing or enjoying areas of Sea Country	✓	✓	No	No (No limitations on access beyond the Operational Areas)
Kinship systems and totemic species	Traditional Custodians have connection to species through kinship and totemic systems. An individual may have obligation to care for or not consume a species to which they are kin.	✓	✓	Possible	Possible
Resource collection	Fishing, hunting, gathering of marine species including marine mammals, marine reptiles, fish and invertebrates.	✓	✓	No	Possible
Marine ecosystems and species					
Water quality	Interest only, raised as a natural environment interest	✓	✓	Possible	Possible
Marine species	Generally raised in consultation and literature as an interest	✓	✓	Possible	Possible

Identified cultural features and heritage values	Context	EP Source		Potential for overlap	
		Consultation Feedback	*Desktop Literature Assessment*	*Operational Area*	*EMBA*
Marine mammals: Whales	Generally raised in consultation and identified in publicly available literature Thalu species of totemic importance Linked to Songlines and Dreaming stories Humpback whales in particular	✓	✓	Possible	Possible
Marine mammals: Dolphins	Cultural ceremonies associated with dolphins Culturally important species	✓	✓	Possible	Possible
Marine mammals: Dugongs	Culturally important species Used as a resource	✓	✓	No	Possible
Marine reptiles: Marine turtles	Culturally important species and migration There are Thalu ceremonies associated with turtles Turtles and turtle eggs as a resource	✓	✓	Possible	Possible
Fish: Fish, whale sharks, sharks and rays	Culturally important species Used as a resource Law run through the sea, including fish There are Thalu ceremonies associated with increasing fish stocks Fish, including bream and sting rays are totemic species Fish, including sharks and rays raised as a natural environment interest	✓	✓	Possible	Possible
Cephalopods: Squid and Octopus	Thalu species of totemic importance Resource	✓	✓	Possible	Possible
Intertidal communities: Bivalves, gastropods, echinoderms (sea urchins), crustaceans	Resource.	✓	✓	No	Possible

Identified cultural features and heritage values	Context	EP Source		Potential for overlap	
		Consultation Feedback	*Desktop Literature Assessment*	*Operational Area*	*EMBA*
Seabirds	Culturally important species Birds (including shags, seagulls and osprey) and bird eggs as a resource	✓	✓	Possible	Possible
Benthic habitats: Macroalgal communities	Interest only, raised as a natural environment interest.	✓	✓	No	Possible
Shoreline habitats: Mangroves	Critical breeding ground for marine and terrestrial wildlife. Mangroves would have provided shelter, crabbing, digging for shellfish, could be turtle nurseries. Mangrove seeds as resource	✓	✓	No	Possible
Shoreline habitats: Intertidal sand/ mudflat communities	Interest only, raised as a natural environment interest.	✓	✓	No	Possible
Shorelines	Interest only, raised as a natural environment interest.	✓	✓	No	Possible (Shoreline accumulation only)
Marine Park/ coastal reserves	Interest and responsibility	✓	✓	No	Possible

4.9.7 Historic sites of significance

There are no sites of historic cultural heritage significance within the Operational Area. Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139) describes cultural heritage sites that may be present within the EMBA.

4.9.8 Historic underwater heritage

The protection of historic underwater heritage under Commonwealth and State legislation is described in Appendix B.

The Australasian Underwater Cultural Heritage Database records all known Maritime Cultural Heritage (shipwrecks, aircraft, relics and other underwater cultural heritage) in Australian waters. The Australian National Shipwreck Database lists all known shipwrecks in Australian waters. A search of these databases indicated there are no sites within 10 km of the Operational Area; however, a number of sites (shipwrecks) exist within the EMBA.

4.9.9 World, National and Commonwealth Heritage marine places

The Operational Area does not overlap any marine heritage places. World, National and Commonwealth Heritage places within the EMBA are identified in Table 4-21. Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139) outlines the values and sensitivities of these places.

Table 4-21: World, National and Commonwealth Heritage marine places within the environment that may be affected

Listed Place	Distance (minimum) and direction from Operational Area to marine place (km)
World Heritage places	
Murujuga Cultural Landscape	95 km south
Ningaloo World Heritage Area	259 km south-west
Shark Bay, Western Australia World Heritage Area	648 km south-west
National Heritage places	
Ningaloo Coast	259 km south-west
Dirk Hartog Landing	729 km south-west
Batavia Shipwreck Site	1015 km south-west
Dampier Archipelago (including Burrup Peninsula)	95 km south
Shark Bay, Western Australia	648 km south-west
Commonwealth Heritage places	
Ningaloo Marine Area – Commonwealth Waters	300 km south-west
Mermaid Reef – Rowley Shoals	418 km north-east
Scott Reef and Surrounds – Commonwealth Area	822 km north-east

4.10 Socio-economic environment

4.10.1 Commercial fisheries

A number of Commonwealth and State fishery management areas are located within the Operational Area and EMBA. Datasets from the Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES, 2024) were used to identify if Commonwealth managed fisheries have fished within the Operational Area and EMBA in the most recently available five-year period of catch and effort data. FishCube data were also requested from the WA Department of Primary Industries and Regional Development for the most recently available five-year period of fishery catch and effort data (2019 to 2024) to analyse the potential for fisheries interacting with the Operational Area. Datasets were reviewed from the last five years as a subset of past fishing effort. This was deemed an appropriate period to represent potential future fishing effort over the lifecycle of this EP.

This information was used to determine relevant fisheries for consultation who may be impacted by the proposed Petroleum Activity. Table 4-22 provides an assessment of the potential interaction and Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139) provides further detail on the fisheries that have been identified through desk-based assessment and consultation (Section 5). No Commonwealth managed fisheries were identified as potentially interacting with the Operational Area; however, three were identified as potentially interacting with the EMBA (Table 4-22). Four State managed fisheries were identified as having potential to interact with the Operational Area and 25 were identified within the EMBA (Table 4-22, Figure 4-16).

Table 4-22: Commonwealth and State commercial fishery management areas overlapping the Operational Area and environment that may be affected

Fishery	Potential for interaction during activity[1]		Description
	Operational Area	EMBA	
Commonwealth managed fisheries			
Southern Bluefin Tuna Fishery	✓	✓	The Southern Bluefin Tuna Fishery management area overlaps the EMBA and Operational Area. The Southern Bluefin Tuna Fishery spans the Australian Fishing Zone; however, since 1992, most Australian catch has concentrated in south-eastern Australia. There has been no fishing effort reported within the Operational Area or the EMBA in the last 5 years. Accordingly, Woodside considers there to be no potential for interaction between this fishery and the Petroleum Activity.
Western Skipjack Tuna Fishery	✓	✓	The Western Skipjack Tuna Fishery management area overlaps the Operational Area and the EMBA. The Western Skipjack Tuna Fishery spans the Australian Fishing Zone west of Victoria and the Torres Strait. The fishery is not currently active and no fishing has occurred since 2009. Accordingly, Woodside considers there to be no potential for interaction between this fishery and the Petroleum Activity.
Western Tuna and Billfish Fishery	✓	✓	The Western Tuna and Billfish Fishery management area overlaps the EMBA and Operational Area; however, the majority of Australian catch has concentrated in south-eastern Australia. There has been no fishing effort reported within the Operational Area in the last 5 years. Accordingly, Woodside considers it a possibility that interactions with the fishery may occur in the EMBA.
North-west Slope Trawl Fishery	×	✓	The North-west Slope Trawl Fishery management area overlaps the EMBA. Between one to six vessels have been active in the fishery since 2005. Fishery Status Reports indicate recent activity inside the EMBA. Accordingly, Woodside considers it a possibility that interactions with the fishery may occur in the EMBA.
Western Deepwater Trawl Fishery	×	✓	The Western Deepwater Trawl management area overlaps the EMBA. Fishery Status Reports indicate recent activity inside the EMBA. There has been no fishing effort reported within the Operational Area in the last 5 years. Accordingly, Woodside considers it a possibility that interactions with the fishery may occur in the EMBA.
State managed fisheries			
Western Australian Abalone Managed Fishery	✓	✓	The Western Australian Abalone Managed Fishery overlaps the Operational Area and EMBA, but catch data has only been reported in the very south of the EMBA. Catch effort was also only reported in the 60 NM block data and was not within any of the 10 NM blocks overlapping the EMBA. Most catch associated with this fishery is concentrated around the south of Western Australia, particularly along the south coast. Therefore, there is considered no potential for interaction with the Operational Area and only minor potential for interaction in the very south of the EMBA.

Fishery	Potential for interaction during activity[1]		Description
	Operational Area	EMBA	
Mackerel Managed Fishery (Area 2)	✓	✓	The Mackerel Managed Fishery management area overlaps both the Operational Area and EMBA, with catch data showing the fishery has been active in both areas. However, catch data overlapping the Operational Area shows there are only catches reported in the 60 NM block and not within the 10 NM block over the past 5 years, which reduces the likelihood that any recent activity has occurred within the Operational Area. Catch data shows the fishery has reported catches as recently as 2024 along the north-west coast of WA and is therefore likely to be operating within the EMBA.
Marine Aquarium Fish Managed Fishery	✓	✓	The Marine Aquarium Fishery management area overlaps both the Operational Area and EMBA, with catch data only overlapping the EMBA. The most recent catch data is reported in the north and south of the EMBA, with the closest reported catch effort to the Operational Area from the 2020–2021 reporting period. Given the overlap with catch data and the EMBA, it is assumed there is potential for interaction with this fishery within the EMBA.
North Coast Shark Fishery	✓	✓	The North Coast Shark Fishery management area overlaps both the Operational Area and EMBA; however, no catch data was reported in either area. The last reported fishing activity from this fishery was in the 2008–2009 fishing season. Woodside considers there to be no potential for interaction between this fishery and the Petroleum Activity.
Onslow Prawn Managed Fishery	✓	✓	The Onslow Prawn Managed Fishery management area overlaps the Operational Area and the EMBA, with catch data reported within the EMBA, just south of the Operational Area around Exmouth. The last reported catch for this fishery was in the 2023–2024 season. Woodside considers there is potential for interaction with this fishery within the EMBA.
Pearl Oyster Managed Fishery	✓	✓	The Pearl Oyster Managed Fishery management area overlaps both the Operational Area and EMBA; however, no catch data was reported in either of these areas, with most activity occurring north of the EMBA. Woodside considers there to be no potential for interaction with this fishery.
Pilbara Crab Managed Fishery	✓	✓	The Pilbara Crab Managed Fishery management area overlaps the Operational Area and the EMBA, with catch data only reported within the EMBA. Catch data for this fishery suggests it mostly operates around Dampier. Woodside considers there to be potential for interaction with this fishery within the EMBA.
Pilbara Fish Trawl (Interim) Managed Fishery	✓	✓	The Pilbara Fish Trawl (Interim) Managed Fishery management area overlaps the Operational Area and the EMBA, with catch data reported in both areas. The fishery has remained consistently active within the Operational Area and the EMBA, recording catches in each of the five years of catch data that was reviewed. As such, Woodside considers there to be potential for interaction with this fishery within the Operational Area and the EMBA.
Pilbara Trap Fishery	✓	✓	The Pilbara Trap Fishery management area overlaps the Operational Area and EMBA, with catch data reported across both areas. Catch effort for this fishery was reported consistently across the NWS area and Woodside considers there to be potential for interaction within the Operational Area and EMBA.

Fishery	Potential for interaction during activity[1]		Description
	Operational Area	EMBA	
Pilbara Line Fishery	✓	✓	The Pilbara Line Fishery management area overlaps the Operational Area and EMBA, with catch data reported across both areas. Catch effort for this fishery has been reported consistently across the north-west shelf area and Woodside considers there to be potential for interaction within the Operational Area and EMBA.
Specimen Shell Managed Fishery	✓	✓	The Specimen Shell Managed Fishery management area overlaps the Operational Area and EMBA, with catch data only reported in the EMBA. The majority of recent catch data shows the fishery is active south of the Operational Area and has consistently reported catch over the last five years along the Western Australia coast. Woodside considers there to be potential for interaction with this fishery in the EMBA.
The South-West Coast Salmon Fishery	✓	✓	The South-West Coast Salmon Fishery management area overlaps the Operational Area and EMBA; however, no catch data was reported within these areas. The fishery was active as recently as 2024 but efforts are mostly located in the south of Western Australia. Woodside considers there to be no potential for interaction with this fishery.
West Coast Deep Sea Crustacean Managed Fishery	✓	✓	The West Coast Deep Sea Crustacean Managed Fishery management area overlaps the Operational Area and EMBA, with catch data only reported in the EMBA. Catch efforts for this fishery were consistently reported along the Western Australia coast over the past five years. Woodside considers there to be potential for interaction with this fishery in the EMBA.
West Coast Demersal Scalefish (Interim) Managed Fishery	×	✓	The West Coast Demersal Scalefish (Interim) Managed Fishery management area overlaps the EMBA with catch effort also reported within the EMBA. The majority of catch effort from this fishery occurs south of the Operational Area, with catch data showing consistent catch efforts over the past five years. Woodside considers there to be potential for interaction within the EMBA.
West Coast Purse Seine Fishery	×	✓	The West Coast Purse Seine Fishery management area overlaps the EMBA, with catch data consistently reported around Perth. Catch data overlaps the very southern area of the EMBA; therefore, Woodside considers there to be potential for interaction within the EMBA.
Exmouth Gulf Prawn Managed Fishery	×	✓	The Exmouth Gulf Prawn Managed Fishery management area overlaps the EMBA and catch effort was consistently reported within the EMBA. The catch effort for this fishery is mostly concentrated around Exmouth and there is potential for interaction within the EMBA.
Gascoyne Demersal Scalefish Managed Fishery	×	✓	The Gascoyne Demersal Scalefish Managed Fishery management area overlaps the EMBA and catch effort was consistently reported within the EMBA. Therefore, Woodside considers there to be potential for interaction with this fishery.

Fishery	Potential for interaction during activity[1]		Description
	Operational Area	EMBA	
Kimberley Crab Managed Fishery	×	✓	The Kimberley Crab Managed Fishery management area overlaps the EMBA, but no catch efforts were reported in this area. Catch efforts are more concentrated at the north of Western Australia; therefore, Woodside considers there to be no potential for interaction with the Petroleum Activity.
Nickol Bay Prawn Managed Fishery	×	✓	The Nickol Bay Prawn Managed Fishery management area overlaps the EMBA, with catch data consistently reported within the EMBA. On this basis, Woodside considers there to be potential for interaction with this fishery within only the EMBA.
Northern Demersal Scalefish Fishery	×	✓	The Northern Demersal Scalefish Fishery management area overlaps the EMBA, with catch data consistently reported within this area. There is no overlap with the Operational Area. Woodside considers there to be potential for interaction with this fishery within only the EMBA.
Octopus Interim Managed Fishery	×	✓	The Octopus Interim Managed Fishery management area overlaps the EMBA, with catch data reported at the very southern end of this area. There is no overlap with the Operational Area. On this basis, Woodside considers there to be potential for interaction with only the EMBA.
West Coast Rock Lobster Managed Fishery	×	✓	The West Coast Rock Lobster Managed Fishery management area overlaps the EMBA, with catch data reported consistently along the southern half of the Western Australia coast. There is no overlap with the Operational Area. On this basis, Woodside considers there to be potential for interaction with only the EMBA.
Shark Bay Crab Managed Fishery	×	✓	The Shark Bay Crab Managed Fishery management area overlaps the EMBA, with catch data reported consistently south of the Operational Area. There is no overlap with the Operational Area; therefore, Woodside considers there to be potential for interaction with only the EMBA.
Shark Bay Prawn Managed Fishery	×	✓	The Shark Bay Crab Managed Fishery management area overlaps the EMBA, with catch data reported consistently south of the Operational Area. There is no overlap with the Operational Area; therefore, Woodside considers there to be potential for interaction with only the EMBA.
Shark Bay Scallop Managed Fishery	×	✓	The Shark Bay Scallop Managed Fishery management area overlaps the EMBA, with catch data consistently reported south of the Operational Area. There is no overlap with the Operational Area; therefore, Woodside considers there to be potential for interaction with only the EMBA.
South West Trawl Managed Fishery	×	✓	The South West Trawl Managed Fishery management area overlaps the EMBA, with catch data reported at the very southern end of the EMBA near Perth. There is no overlap with the Operational Area. Woodside considers there to be potential for interaction with only the EMBA.
West Coast (Beach Bait Fish Net) Managed Fishery	×	✓	The West Coast (Beach Bait Fish Net) Managed Fishery management area overlaps the EMBA, with catch data reported at the very southern end of the EMBA near Perth. There is no overlap with the Operational Area. Woodside considers there to be potential for interaction with only the EMBA.

Fishery	Potential for interaction during activity[1]		Description
	Operational Area	EMBA	
West Coast Demersal Gillnet and Demersal Longline Managed Fishery	×	✓	The West Coast Demersal Gillnet and Demersal Longline Managed Fishery management area overlaps the EMBA, with catch data reported at the very southern end of the EMBA near Perth. There is no overlap with the Operational Area. Woodside considers there to be potential for interaction with only the EMBA.
Abrolhos Islands and Mid West Trawl Managed Fishery	×	✓	The Abrolhos Islands and Mid West Trawl Managed Fishery management area overlaps the EMBA, with catch data reported around the Abrolhos Islands. There is no overlap with the Operational Area. Woodside considers there to be potential for interaction with only the EMBA.
Tour operators	×	✓	Fishing tour operators are permitted to operate across WA State waters and are required to report monthly logbook records of customer fish catches. FishCube data indicate tour operator fishing effort highest around Ningaloo and Muiron Islands and at Barrow Island and the Montebello Islands. FishCube data reports consistent effort across twenty-four 60 NM CAES blocks that overlap the EMBA. Effort was reported by up to 20 vessels. The FishCube data reported no active tour operators at 10 NM overlapping the Operational Area within the last five years. Accordingly, Woodside considers it a possibility that interactions with tour operators may occur within the EMBA.

1. *× indicates no spatial overlap with management area and therefore no potential for interaction with planned activities; ✓ indicates spatial overlap with management area; ✓ with shading indicates spatial overlap with management area and potential for interaction with planned activities.*
2. *Only active in the 60 NM fish cube, not active in the 10 NM fish cube.*

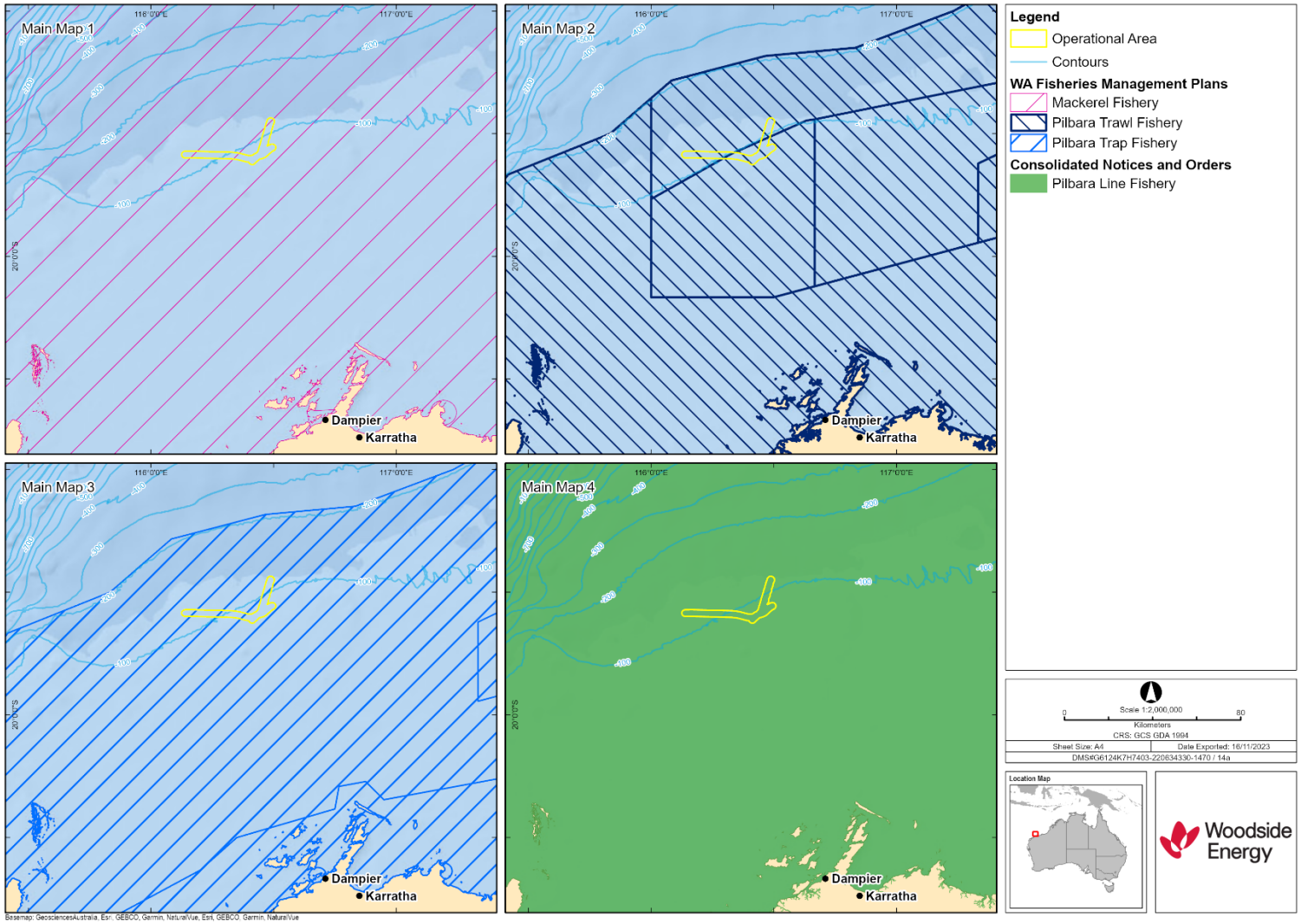


Figure 4-16: State managed fisheries with a potential for interaction within the Operational Area

4.10.2 Traditional and customary fishing

There are no traditional or customary fisheries within the Operational Area, as these are typically restricted to shallow coastal waters and/or areas with structures such as reefs. However, it is recognised that Barrow Island, Montebello Islands and Ningaloo Reef, all within the EMBA, have a known history of fishing when areas were occupied (as from historical records) (Department of Conservation and Land Management 2005, Department of Environment and Conservation, 2007). Areas that are covered by registered native title claims are likely to practice Aboriginal fishing techniques at various sections of the Western Australia coastline.

Traditional fishing methods in the NWMR and SWMR are further described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

4.10.3 Tourism and recreation

The Operational Area is located offshore of the North West tourism region which includes parts of the Gascoyne and Pilbara regions. Tourism is concentrated in the vicinity of population centres such as Broome, Dampier, Exmouth, Coral Bay, and Shark Bay. The population centre closest to the Operational Area is the town of Dampier (119 km from the Offshore Facility Operational Area).

No tourist activities take place specifically within the Operational Area; however, it is acknowledged that there are growing tourism and recreational sectors in WA, which have expanded over the last couple of decades. Tourism is one of the major industries of the Gascoyne region and continues to grow in the Pilbara region; it contributes significantly to the local economy in terms of both income and employment. Tourism is concentrated in the vicinity of population centres such as Broome, Dampier, Exmouth, Coral Bay, and Shark Bay. The main marine nature-based tourist activities are concentrated around and within the Ningaloo World Heritage Area (approximately 259 km south-west of the Operational Area). Activities undertaken include recreational fishing, snorkelling and scuba diving, and wildlife watching and encounters (including whale sharks, manta rays, humpback whales and turtles) (Schianetz et al., 2009).

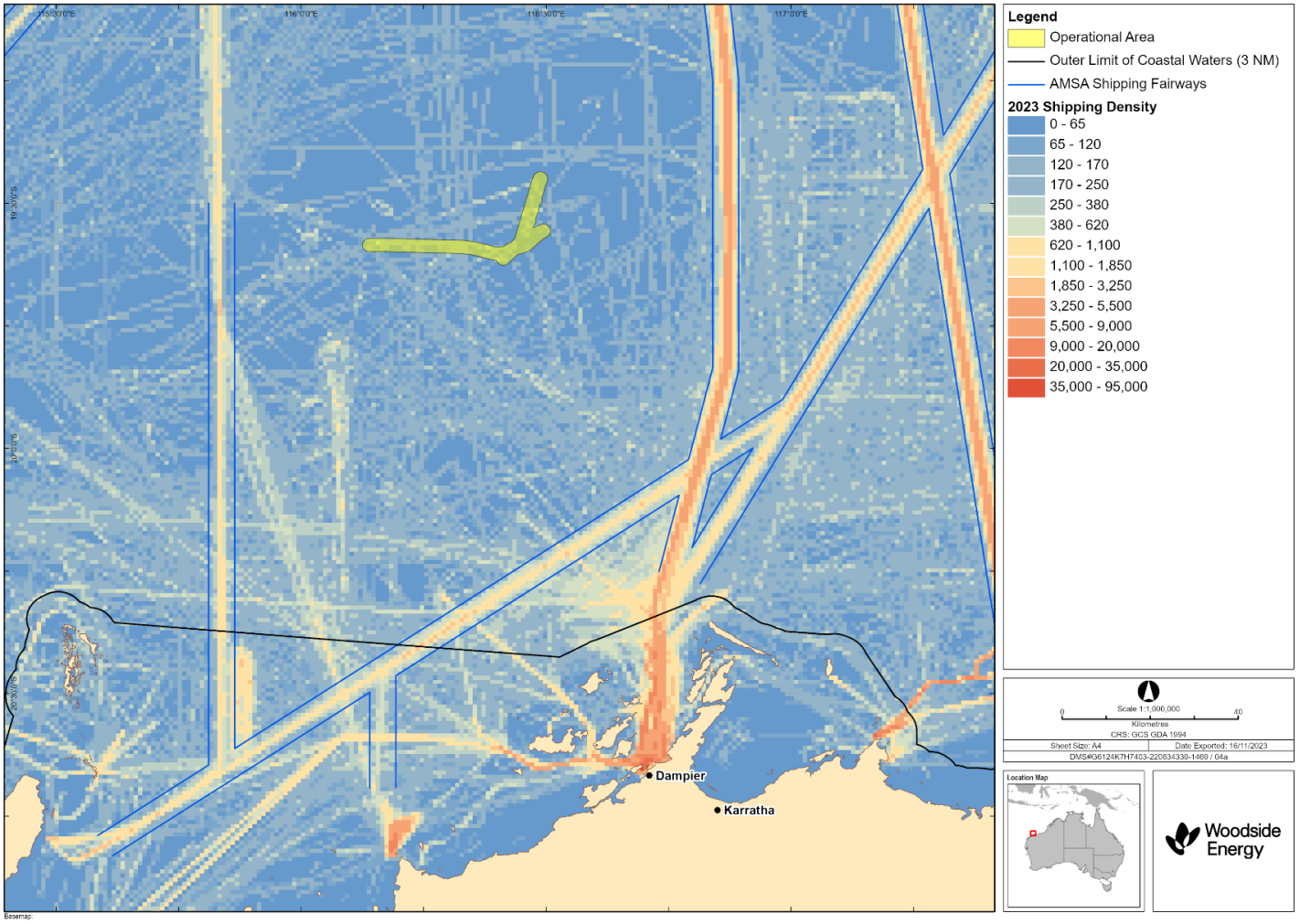
The Montebello Islands (located 105 km south-west of the Operational Area) are the closest location for tourism with some charter boat operators taking visitors to these islands (Department of Environment and Conservation, 2007) and are located within the EMBA.

Recreational fishing in the Pilbara and Gascoyne regions is mainly concentrated around the coastal waters and islands and has grown considerably with the expanding regional centres, seasonal tourism and increasing residential and fly in/fly out workforce, particularly in the Pilbara region (Fletcher et al., 2017). Some recreational fishing has historically taken place at Rankin Bank and the Glomar Shoals KEF (approximately 58 km west and 7 km east of the Operational Area respectively). However, due to the distance from access nodes on the WA coast, recreational fishing effort is expected to be restricted to relatively large vessels and hence is considered low.

Tourism and recreation in the context of the wider NWMR and SWMR is described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139).

4.10.4 Commercial shipping

The Australian Maritime Safety Authority (AMSA) has introduced a network of marine fairways across the NWMR to reduce the risk of vessel collisions with offshore infrastructure. It is noted that none of these fairways intersect with the Operational Area (Figure 4-17). Vessel tracking data suggest shipping is concentrated east of the Operational Area and is likely associated with Woodside oil and gas facilities. The nearest port to the Operation Area is Dampier, located 119 km to the south-east.



Data derived from AMSA satellite tracking system data (vessels include cargo, LNG tanker, passenger vessels, support vessels, and others/unnamed vessels)

Figure 4-17: Vessel density map for the Operational Area and environment that may be affected

4.10.5 Oil and gas facilities, infrastructure and other industries

The Woodside Angel Facility, NRC and GWA are located within 50 km of the Operational Area and a number of other oil and gas facilities are located in the region (Figure 4-18). Whilst Angel Facility and NRC are located approximately 18 km east and 32 km west of the Okha FPSO respectively, associated infrastructure overlaps the Operational Area (Table 4-23).

Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139) describes current oil and gas development within the EMBA, also shown in Figure 4-18.

Table 4-23: Angel and North Rankin infrastructure overlapping the Operational Area

Facility or asset	Operator	Infrastructure overlapping the Operational Area
Angel Facility	Woodside	Export gas pipeline connecting the Angel platform to the NRC platform
North Rankin Complex	Woodside	1 x UTA, 1 x PLEM, 1 x Flowline End Termination (FLET), 1 x Subsea Isolation Valve (SSIV), 1 x valve station, 1 x integrated valve skid, 2 x North Rankin Trunklines, umbilicals.

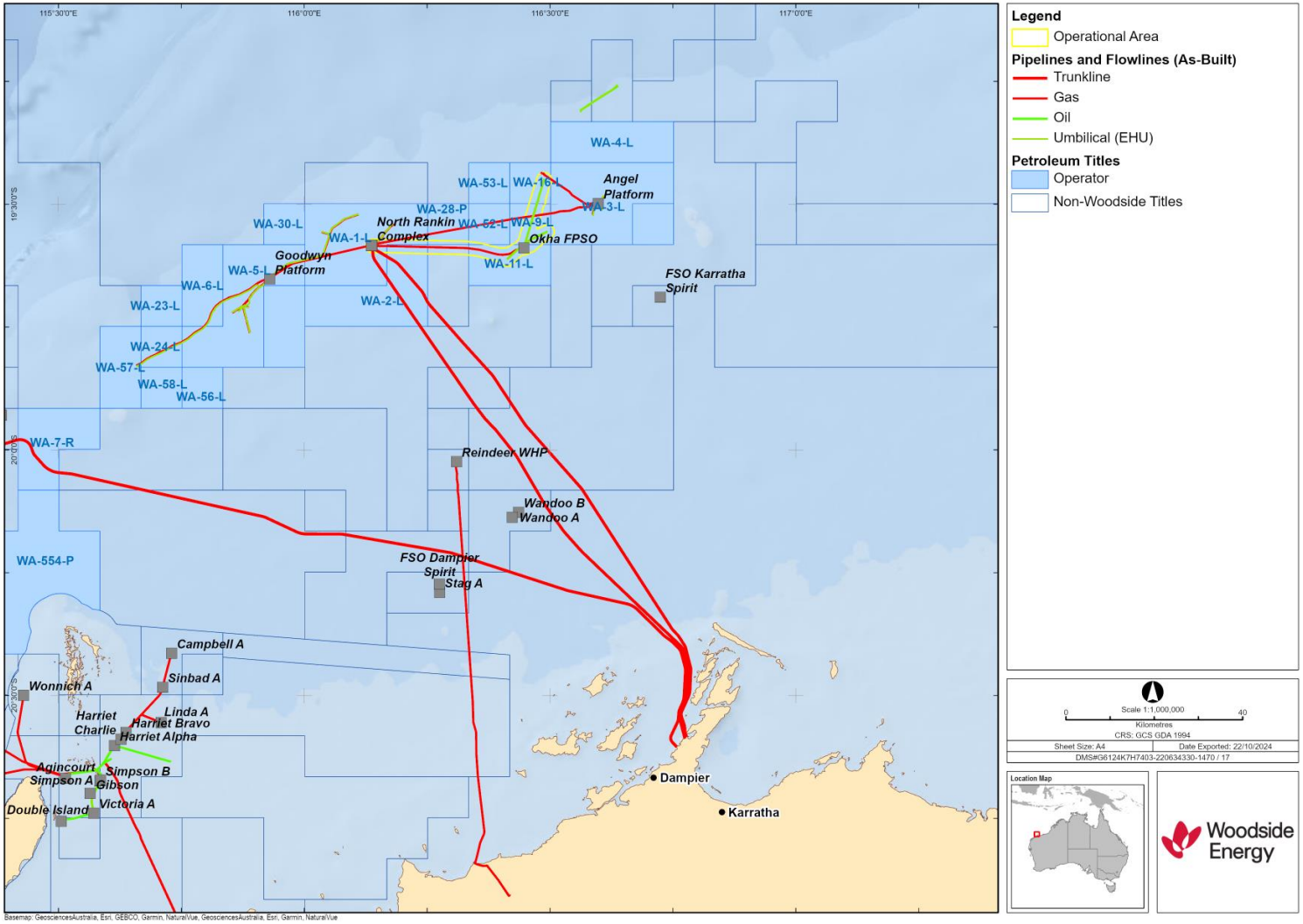


Figure 4-18: Oil and gas infrastructure within the Operational Area and environment that may be affected

4.10.6 Submarine communication infrastructure

The Petroleum Activity is located in a region with submarine communications infrastructure. The submarine communications infrastructure located within 50 km of the Operational Area is listed in Table 4-24.

Table 4-24: Communications infrastructure located within 50 km of the Operational Area

Communications Infrastructure (submarine cables)	Distance from the Operational Area
Woodside Fibre Optic Cable Route	3.5 km
Scarborough Fibre Optic Cable	20 km
Chevron Fibre Optic Cable Route	44.5 km
Woodside Fibre Optic Cable Route (BU6 to GWA Route) (proposed)	21 km

4.10.7 Defence

The Operational Area overlaps two areas that have been identified as ‘defence areas’, however, the nature of these areas including their use is not publicly available information. The EMBA also overlaps a number of defence areas. Figure 4-19 shows the areas overlapping both the Operational Area and EMBA.

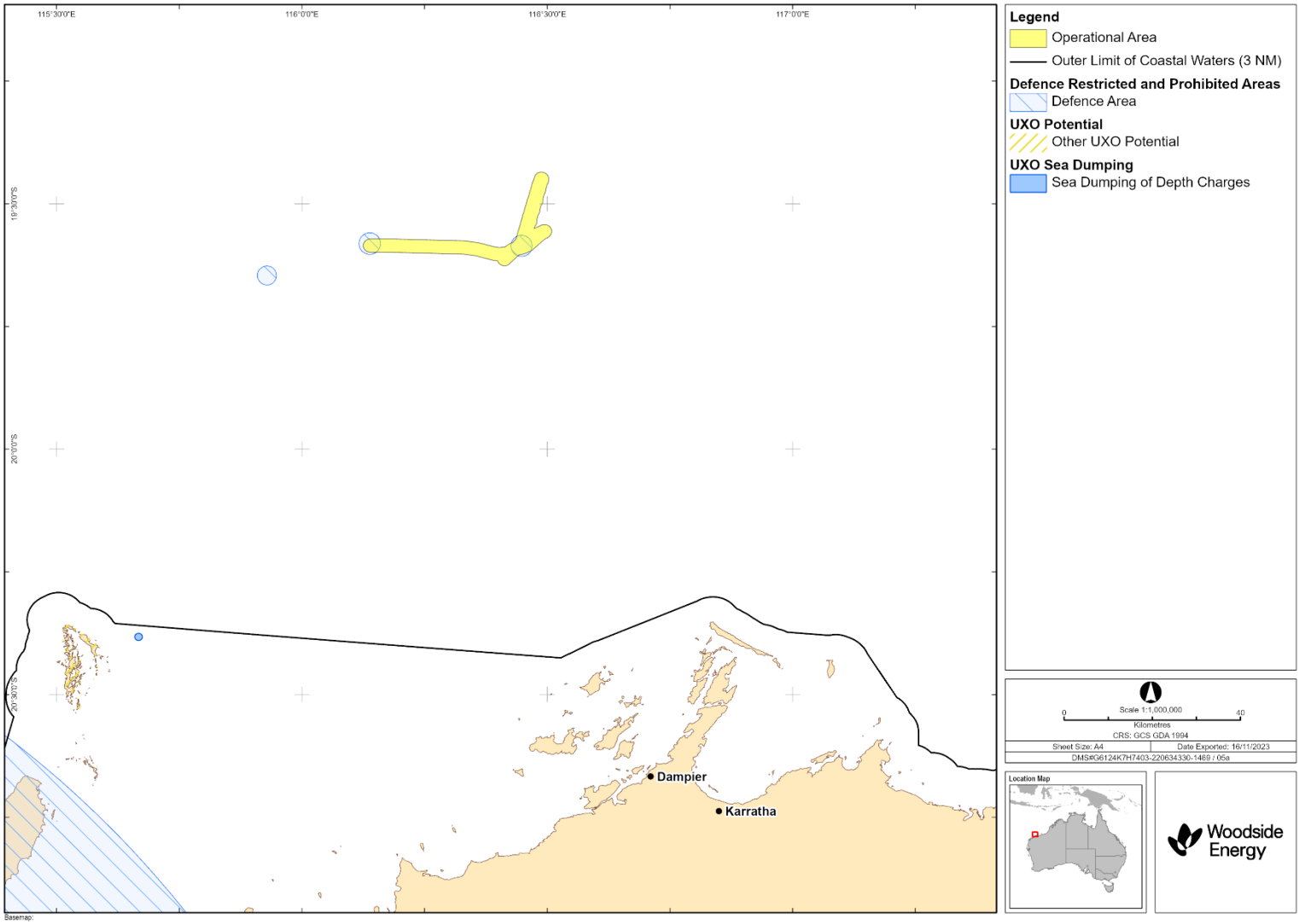


Figure 4-19: Defence areas within the environment that may be affected

5. STAKEHOLDER CONSULTATION

5.1 Summary

Woodside consults relevant persons in the course of preparing an Environment Plan (EP) in accordance with regulation 25 of the Environment Regulations. (In this Section, references to 'regulations' are to the Environment Regulations, unless otherwise stated)

The consultation process is designed to identify relevant persons and provide them with sufficient information and a reasonable period to allow them to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities. This enables Woodside to assess the merits of objections or claims about the adverse impact of each activity to which the EP relates that are received from relevant persons and for Woodside to adopt appropriate measures (if any) in response to those objections or claims so that the activity is carried out in a manner by which the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable (ALARP) and will be of an acceptable level.

Consultation is informed by both the Environment Regulations and the findings of relevant Courts, including the Full Federal Court in the *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193* (Tipakalippa Appeal) (see Section 5.2 and 5.5.1) and *Munkara v Santos NA Barossa Pty Ltd (No 3)* [2024] FCA 9 (Munkara Case).

For this EP, Woodside has considered both the Operational Area and the broader EMBA in undertaking consultation (see further discussion in Section 5.2). The broadest extent of the EMBA has been determined by reference to the highly unlikely event of a hydrocarbon release resulting from activities in the Operational Area (see Section 4).

Woodside's consultation methodology is divided into two parts:

- the first section (Section 5.2 to 5.5) provides an overview of Woodside's consultation methodology for its EPs, including how we apply regulation 25(1) to identify relevant persons
- the second section (Section 5.6 to 5.7) details Woodside's approach to accepting feedback and assessment of the merits of each objection or claim about the adverse impact of each activity to which the EP relates, and engaging in ongoing consultation for this EP.

Woodside's consultation record is in Appendix F and includes a summary of the following:

- assessment and identification of relevant persons
- consultation information provided to relevant persons, feedback received, Woodside's assessment of the merits of objections or claims and Woodside's response to relevant persons and other stakeholders Woodside chose to consult
- engagement with persons or organisations that Woodside chose to contact who are 'not relevant' persons for the purposes of regulation 25(1) (see Section 5.3.4)
- opportunities provided to persons or organisations to participate in consultation.

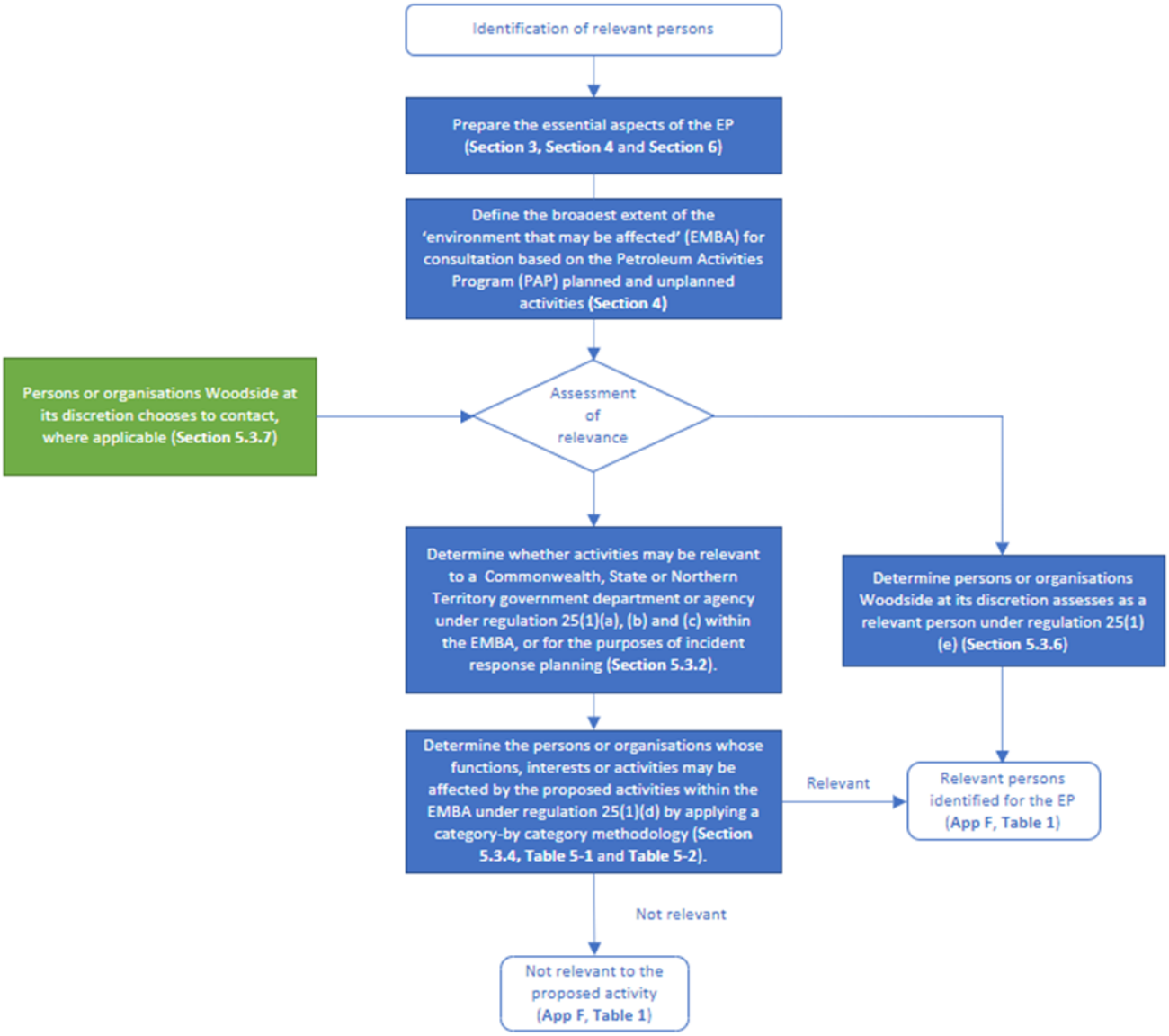


Figure 5-1: Overview of Woodside's methodology to identify relevant persons

5.2 Consultation – general context

Woodside has a portfolio of quality oil and gas assets and more than 40 years of operating experience. We have a strong history of working with local communities, the relevant regulators and a broad range of persons and organisations, to better understand the potential risks and impacts associated with our proposed activities and to develop appropriate measures to manage them.

The length of time that we have operated in Commonwealth and State waters, and the history of continued engagement with a wide range of persons and organisations, enables Woodside to develop an extensive consultation list to inform its consultation process. This consultation list is not used as a definitive list of persons to consult but, rather, assists Woodside as an input to its understanding of relevant persons with whom to consult on a petroleum activity. The information in the consultation list has been captured from years of experience: it contains insights relating to the type of information particular persons or organisations want to receive during consultation, the appropriate method of consultation for relevant persons and includes appropriate contact details, which are reviewed and updated periodically.

Woodside acknowledges NOPSEMA's GL2086 – *Consultation in the course of preparing an environment plan guideline* (May 2023) as well as judicial guidance in the Tipakalippa Appeal on the intent of consultation, as follows:

- At paragraph 54 of the appeal decision: … *provide a basis for NOPSEMA's considerations of the measures, if any, that a titleholder proposes to take or has taken to lessen or avoid the deleterious effect of its proposed activity on the environment, as expansively defined.*
- At paragraph 89 of the appeal decision: …*its purpose is to ensure that the titleholder has ascertained, understood and addressed all the environmental impacts and risks that might arise from its proposed activity. Consultation facilitates this outcome because it gives the titleholder an opportunity to receive information that it might not otherwise have received from others affected by its proposed activity. Consultation enables the titleholder to better understand how others with an objective stake in the environment in which it proposes to pursue the activity perceive those environmental impacts and risks. As the Regulations expressly contemplate, it enables the titleholder to refine or change the measures it proposes to address those impacts and risks by taking into account the information acquired through the consultations. Objectively, the scheme intends that this is likely to improve the minimisation of environmental impacts and risks from the activity.*

The *Tipakalippa Appeal* and *Munkara Case* have also been further considered in the context of specific methods for consultation with First Nations' relevant persons (Section 5.5.1).

To undertake consultation, Woodside has developed a methodology for identifying relevant persons in accordance with regulation 25(1) (Section 5.3). This methodology is consistent with NOPSEMA's Guideline and demonstrates that, to meet the requirements of regulation 34 (criteria for EP acceptance) when preparing the EP, Woodside understands:

- our planned activities in the Operational Area, being the area in which our planned activities are proposed to occur (see Section 3.3)
- the geographical extent to which the environment may be affected (EMBA) by risks and impacts from our activities (unplanned) (identified in Section 4.1 and assessed in Section 6.7).

Woodside has undertaken consultation in the course of preparing this EP in compliance with regulation 25, which requires a Titleholder to:

- consult with each of the following (a relevant person) in the course of preparing an EP:
  - each Commonwealth, State or Northern Territory agency or authority to which the activities to be carried out under the EP may be relevant
  - if the plan relates to activities in the offshore area of a State – the Department of the responsible State Minister
  - if the plan relates to activities in the Principal Northern Territory offshore area – the Department of the responsible Northern Territory Minister
  - a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP
  - any other person or organisation that the Titleholder considers relevant (regulation 25(1)).
- give each relevant person sufficient information to allow the relevant person to make an informed assessment of the possible consequences of the activity on their functions, interests or activities (regulation 25(2))
- allow a relevant person a reasonable period for the consultation (regulation 25(3))
- tell each relevant person that the Titleholder consults with, that the relevant person may request that particular information it provides in the consultation not be published and any information subject to such a request is not to be published (regulation 25(4)).

Further, Woodside seeks to carry out consultation in a manner that:

- is consistent with the principles of ecologically sustainable development (ESD) set out in section 3A of the EPBC Act – see Section 2.

- is intended to reduce the environmental impacts and risks from the activity to ALARP and an acceptable level (regulation 4)
- is intended to minimise harm to the relevant person and the environment from the proposed petroleum activities and to enable Woodside to consider measures that may be taken to mitigate the potential adverse environmental impacts from the petroleum activity
- is collaborative. Woodside respects that, for a relevant person, consultation is voluntary. Where the relevant person seeks to engage, Woodside engages with the relevant person with the aim of seeking genuine and meaningful two-way dialogue
- provides opportunities for relevant persons to provide feedback throughout the life of the EP through its ongoing consultation process (refer to Section 5.7 and Section 7.9).

An overview of Woodside's consultation approach is outlined at Figure 5-2.

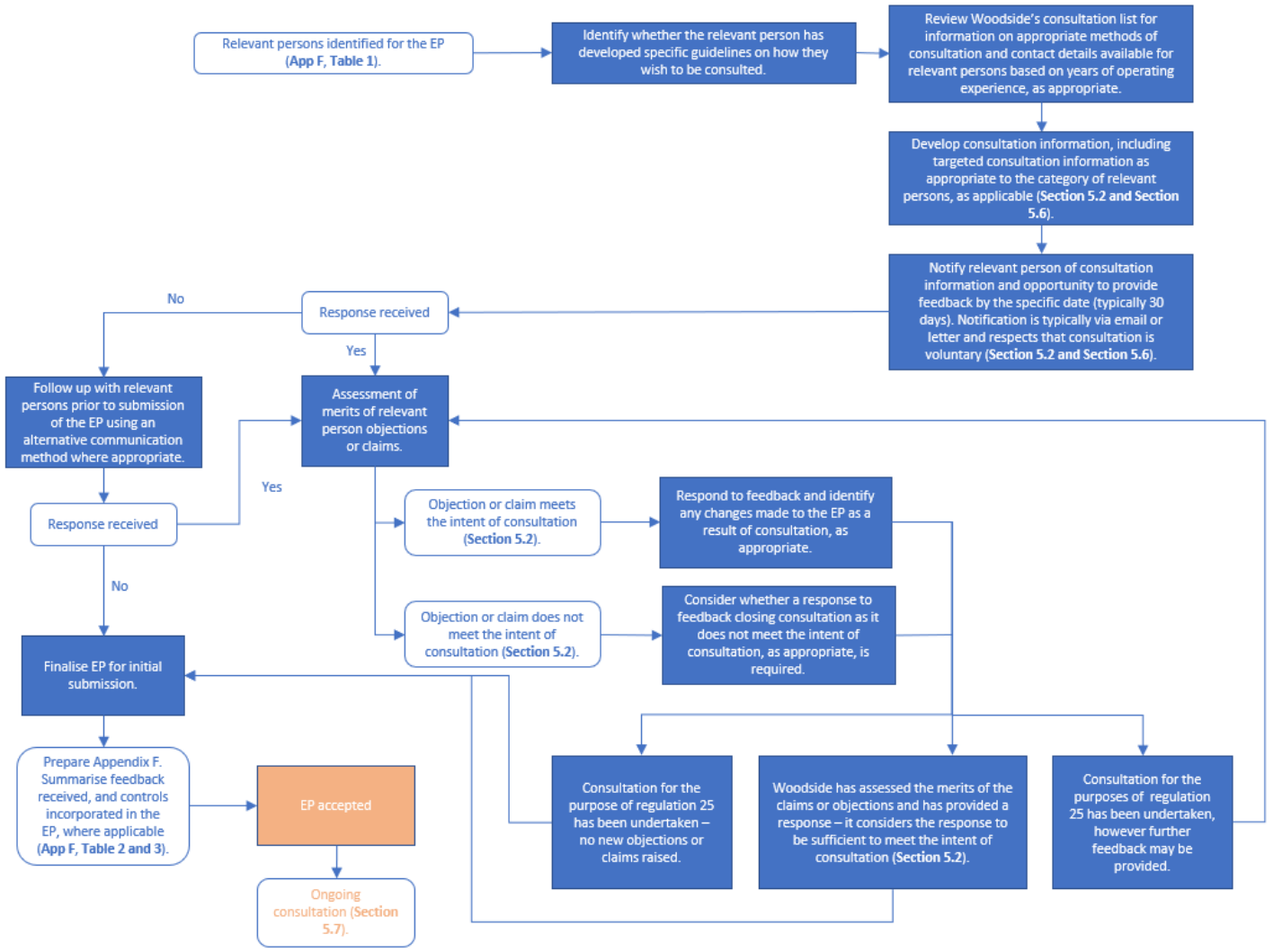


Figure 5-2: Overview of Woodside's consultation approach

The methodology for consultation for this activity has been informed by various guidelines and relevant information for consultation on planned activities, including:

Federal Court:

- Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193
- Munkara v Santos NA Barossa Pty Ltd (No 3) [2024] FCA 9

NOPSEMA:

- GL2086 – Consultation in the course of preparing an environment plan – May 2023
- GN1847 – Responding to public comment on environment plans – January 2024
- GN1344 - Environment plan content requirements - September 2020
- GL1721 – Environment Plan decision making – January 2024
- GN1488 - Oil pollution risk management - July 2021
- GN1785 – Petroleum activities and Australian Marine Parks – January 2024
- GL 1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – August 2024
- PL9028 Managing gender-restricted information – December 2023
- Consultation on offshore petroleum environment plans – Information for the community

Department of Energy, Mines, Industry Regulation and Safety (DEMIRS):

- Guideline for the development of Petroleum, Geothermal and Pipeline Environment Plans in Western Australia (November 2024)
- Guideline — Decommissioning of petroleum and geothermal energy property, equipment and infrastructure in Western Australian onshore areas and State coastal waters (March 2024)

Department of Climate Change, Energy, the Environment and Water (DCCEEW):

- Sea Countries of the North-West; Literature review on Indigenous connection to and uses of the North West Marine Region

Australian Fisheries Management Authority (AFMA):

- Petroleum industry consultation with the commercial fishing industry

Commonwealth Department of Agriculture, Fisheries and Forestry (DAFF):

- Fisheries and the Environment – Offshore Petroleum and Greenhouse Gas Act 2006
- Offshore Installations Biosecurity Guide

WA Department of Primary Industries and Regional Development (DPIRD):

- Guidance statement for oil and gas industry consultation with the Department of Fisheries

WA Department of Transport (DoT):

- Offshore Petroleum Industry Guidance Note

WA Australian Fishing Industry Council (WAFIC):

- Oil and Gas Consultation Framework

Good practice consultation:

- IAP2 Public Participation Spectrum
- Interim Engaging with First Nations People and Communities on Assessments and Approvals under the Environment Protection and Biodiversity Act 1999

5.3 Identification of relevant persons for consultation

5.3.1 Regulations 25(1)(a), (b) and (c)

The relevant inquiry for determining relevant persons under regulations 25(1)(a) and (b) is whether the activities to be carried out under the EP may be relevant to one of the government departments or agencies in those regulations. The government departments and agencies relevant to the EP are listed in Appendix F, Table 1. In accordance with regulation 25(1)(b), Woodside consults with the Department of the relevant State Minister.

5.3.2 Identification of relevant persons under regulations 25(1)(a), (b) and (c)

Woodside's methodology for identifying relevant persons under regulations 25(1)(a), (b) and (c) is as follows:

- Woodside considers the defined responsibilities of each of the departments and agencies to which the activities to be carried out in the EMBA under the EP may be relevant. This list of relevant departments and agencies is formulated by reference to the responsibilities of the government departments, as set out on their websites, in NOPSEMA's GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area guideline (January 2024), which describes where the Department is a relevant agency under the Environment Regulations, as well as experience and knowledge that Woodside has gained from years of operating. This list is revised from time to time, for example, for the purposes of accommodating government restructures, renaming of departments, shifting portfolios and/or to account for new agencies that might arise.
- Woodside has categorised government department or agency groups as follows:

Government departments / agencies – marine	Agencies with legislated responsibilities for use of the marine environment.
Government departments / agencies – environment	Agencies with legislated responsibilities for the protection of the environment.
Government departments / agencies – industry	The legislated Department of the responsible Commonwealth, State or Northern Territory Minister for Industry.

- Woodside considers each of the responsibilities of the departments and agencies, determining whether those responsibilities overlap with potential risks and impacts specific to the petroleum activity in the EMBA. The assessment is both activity and location based.
- Woodside acknowledges the roles and responsibilities of government departments and agencies acting on behalf of various industry participants. For example, AMSA – Marine Safety is responsible for the safety of vessels and the seafarers who are operating in the domestic commercial shipping industry; and AHO is responsible for maritime safety and Notices to Mariners. To undertake proposed activities in a manner that prevents a substantially adverse effect on the potential displacement of marine users, Woodside therefore consults AMSA – Marine Safety and AHO on its proposed activities. Woodside considers each of the responsibilities of the departments and agencies and determines those that would either be involved in the incident response itself or in relation to the regulatory or decision-making capacity with respect to planning for the unlikely event of a worst-case hydrocarbon release incident response specific to the Operational Area. Feedback received, if any, is assessed in accordance with the intended outcome of consultation.
- The list of government departments and agencies assessed as relevant is set out in Appendix F, Table 1.
- Feedback received, if any, is assessed in accordance with the intended outcome of consultation and summarised at Appendix F, Table 2 and Table 3 as appropriate to the relevance assessment.

Woodside does not consult with departments or agencies with interests that do not overlap with risks and impacts specific to the petroleum activity and the EMBA or would not be involved in incident response planning.

5.3.3 Regulation 25(1)(d)

To identify a relevant person for the purposes of regulation 25(1)(d), the meaning of *"functions, interests or activities*" needs to be understood. In regulation 25(1)(d), the phrase "*functions, interests or activities*" should be construed broadly and consistently with the objects of the Environment Regulations (regulation 4) and the objects of the EPBC Act (section 3A).

In developing its methodology for consultation, Woodside acknowledges the guidance below from NOPSEMA's *GL2086 – Consultation in the course of preparing an environment plan guideline* (May 2023):

Functions	Refers to a power or duty to do something
Interests	Conforms to the accepted concept of 'interest' in other areas of public administrative law and includes any interest possessed by an individual whether or not the interest amounts to a legal right or is a proprietary or financial interest or relates to reputation.
Activities	Broader than the definition of 'activity' in regulation 5 of the Environment Regulations and is likely be directed to what the relevant person is already doing.

Woodside's methodology for determining 'relevant persons' for the purpose of regulation 25(1)(d) includes consideration of:

- whether a person or organisation has functions interests or activities that overlap with the Operational Area and EMBA
- whether a person or organisation's functions, interests or activities may be affected by Woodside's proposed planned or unplanned activities.

5.3.4 Identification of relevant persons under regulation 25(1)(d)

Relevant persons under regulation 25(1)(d) are defined as a person or organisation whose functions, interests or activities may be affected by the activities to be carried out under the EP. In identifying relevant persons, Woodside considers:

- the planned activities to be carried out under the EP (described in Section 3)
- the EMBA by unplanned activities (identified in Section 4 and assessed in Section 6).

To identify relevant persons who fall within regulation 25(1)(d), Woodside adopts the following methodology, and then undertakes consultation with relevant persons.

As a general proposition, Woodside assesses whether a person or organisation is a relevant person having regard to:

- whether a person or organisation has functions, interests or activities that overlap with the Operational Area and EMBA
- whether a person or organisation's functions, interests or activities may be affected by Woodside's proposed planned or unplanned activities to be carried out under the EP.

This assessment will include applying judgement, knowledge and considering available, relevant literature.

To assist in identifying the full range of relevant persons, Woodside considers the impacts and risks associated with its proposed activities and considers the broad categories of relevant persons who may be affected by the activities to be carried out under the EP. The broad categories are identified in Table 5-1 below and identification methodology applied as set out in Table 5-2.

The list of those persons or organisations assessed as relevant persons or organisations Woodside separately chose to contact is set out in Appendix F, Table 1.

Feedback received, if any, is assessed in accordance with the intended outcome of consultation and applying the categories of relevant persons methodology outlined in Table 5-2, as appropriate.

Feedback from relevant persons is summarised in Appendix F, Table 2. Feedback from persons assessed as 'not relevant' but whom Woodside chose to contact, or self-identified and Woodside assessed as 'not relevant', are summarised at Appendix F, Table 3.

Table 5-1: Categories of relevant persons

Category	Explanation
Commercial fisheries (Commonwealth and State) and peak representative bodies	Commonwealth or State Commercial Fishery with a fishery management plan recognised under the Commonwealth Fisheries Management Act 1991 (Cth) and the Western Australian Fish Resources Management Act 1994 (WA), which may be amended from time to time. Commonwealth peak fishery representative bodies are identified by AFMA. WAFIC is the peak representative body for state fishers in Western Australia.
Recreational marine users and peak representative bodies	Charter boat, tourism and dive operators identified by DPIRD specific to the location of the proposed activity. Representative bodies are the recognised peak organisation(s) for recreational marine users.
Titleholders and Operators	Registered holder of an offshore petroleum title or GHG title under the OPGGS Act and associated regulations.
Peak industry representative bodies	Recognised peak organisation(s) for the oil and gas sector.
Traditional Custodians (individuals and/or groups/entity)	Traditional Custodians are First Nations Australians with cultural rights and interests or cultural functions or who perform cultural activities over particular lands and waters. Where a First Nations person, group or entity self-identifies and asserts cultural rights, functions, interests or activities they will be considered under the definition of Traditional Custodian for the purpose of this EP (as appropriate).
Nominated Representative Corporations	Nominated representative corporations are Traditional Custodians nominated representative institutions such as Prescribed Body Corporates (PBC). PBCs are established under the Native Title Act 1993 (Cth) by Traditional Custodians to represent their entire Traditional Custodian group (defined broadly by reference to descents from an ancestor set who were known to be the Traditional Custodians at the time of European colonisation) and their interests including, among other things, management and protection of cultural values.
Native Title Representative Bodies	A Representative Aboriginal/Torres Strait Islander Body (RATSIB) is a regional organisation appointed under the Native Title Act 1993 with prescribed functions, set out in Part 11 of the Native Title Act 1993, which relate to: facilitation and assistance; certification; dispute resolution; notifications; agreement making. They are also known, and referred to here, as Native Title Representative Bodies.
Historical heritage groups or organisations	Legislated or government enlisted groups or organisations responsible for the management of marine heritage.
Local government and elected Parliamentary representatives and recognised local community reference/liaison groups or organisations	Local government body formed under the Local Government Act 1995 (WA) and elected Parliamentary representatives which are responsible for representing the local community. Recognised local community reference or liaison group or organisation in relation to oil and gas matters.
Other non-government groups, organisations or individuals	Non-government organisation with public website material targeting the proposed activity. Individual who demonstrates the proposed activity could potentially impact their interests, functions or activities.
Research institutes and local conservation groups or organisations	Research institutes are government or private institutions that conduct marine or terrestrial research.

Category	Explanation
	Local conservation groups are local non-government organisation that regularly conduct conservation activities focused on the local environment or wildlife.

Table 5-2: Methodology for identifying relevant persons within the environment that may be affected, undertaken under regulation 25(1)(d) – by category

Category	Relevant person identification methodology
Commercial fisheries (Commonwealth and State) and peak representative bodies	Woodside assesses relevance for commercial fisheries (Commonwealth and State) and their representative bodies using the following next steps in its methodology: • Defining the parameters having regard to timing, location and duration of the proposed petroleum activity. • Confirming whether the EMBA overlaps with the fisheries management area (i.e., the spatial area the fishery is legally permitted to fish in) (see Section 4.10.1). • Woodside acknowledges WAFIC's consultation guidance[6], that Titleholders develop separate consultation strategies for significant unplanned events (for example an oil spill) where Titleholders can demonstrate the likelihood of such events occurring is extremely low. WAFIC's guidance is that consultation on unplanned events resulting in an emergency scenario should only be undertaken if an incident occurs (see Appendix G Oil Spill Preparedness and Response Strategy Selection and Evaluation). • For Commonwealth and State commercial fisheries, Woodside assesses the potential spatial and temporal extent for interaction with the fishery by reviewing AFMA, ABARES and DPIRD Fishcube data within the Operational Area and EMBA (see Section 4.10.1). Assessment of relevance: • State commercial fisheries that have been assessed as having a potential for interaction within the Operational Area or EMBA (see Section 4.10.1) are assessed as relevant to the proposed activity. However, to avoid over consulting and as requested in WAFIC's guidance, Woodside only consults individual licence holders based on WAFIC's advice. Woodside also utilises WAFIC's consultation service whereby WAFIC: – directly consults fishery licence holders that are assessed as having a potential for interaction in the Operational Area – consults fisheries that are assessed as having a potential for interaction in the EMBA only in the event of an unplanned emergency scenario. • Commonwealth commercial fisheries that have been assessed as having a potential for interaction within the Operational Area or EMBA (see Section 4.10.1) are assessed as relevant to the proposed activity. • If Woodside has identified that a Commonwealth or State fishery is a relevant person, then Woodside also consults the fisheries relevant representative body. For example, WAFIC represents the interests of State fisheries in Western Australia. If a State fishery is identified as relevant, Woodside would also identify WAFIC as relevant. Recognised Commonwealth fishery representative bodies are identified by AFMA via its website. WAFIC is the only recognised State fishery representative body.

[6] *Consultation Approach for Unplanned Events - WAFIC*

Category	Relevant person identification methodology
Recreational marine users and peak representative bodies	Woodside assesses relevance for recreational marine users and peak representative bodies using the following next steps in its methodology: • Using Woodside knowledge and operating experience, applying knowledge of recreational marine users in the area. This assessment is both activity and location based. • Defining the parameters having regard to timing, location and duration of the proposed petroleum activity. • Assessing the potential spatial and temporal extent for interaction with recreational marine users by reviewing DPIRD Fishcube data to assess whether there has been activity within the EMBA in the past 5 years. Assessment of relevance: • Recreational marine users that have been active in the past 5 years within the EMBA are assessed as relevant to the proposed activity. Woodside is provided with the contact details of charter, boat tourism and dive operators specific to the region of the EMBA by DPIRD to consult with the relevant persons. • If Woodside has identified recreational marine users as relevant persons, then Woodside also consults identified peak recreational marine user representative bodies. For example, Recfishwest represents the interests of recreational fishers. These representative bodies are identified via Woodside's existing consultation list, which is updated as appropriate via advice from known groups and DPIRD.
Titleholders and Operators	Woodside assesses relevance for other Titleholders and operators using the following steps in its methodology: • Using GPInfo to determine overlap with other Titleholders or Operators permit areas within the EMBA. • Using Woodside knowledge and operating experience, applying knowledge of other operators in the area. • Woodside produces a map showing the outcome of this assessment. Assessment of relevance: • Titleholders and Operators whose permit areas are identified as having an overlap within the EMBA are assessed as relevant.
Peak industry representative bodies	Woodside assesses relevance for peak industry representative bodies using the following steps in its methodology: • Review of peak industry representative bodies responsibilities that Woodside actively participates in, with consideration of overlap between industry focus area and Woodside's proposed activities within the EMBA. • Review of Woodside's existing consultation list. • Website search to identify whether any additional peak industry representative bodies have been created whose responsibilities may overlap with Woodside's proposed activities within the EMBA. Assessment of relevance: • Peak industry representative bodies whose responsibilities are identified as having an overlap with Woodside's proposed activities within the EMBA are assessed as relevant.
Traditional Custodians (individuals and/or groups/entity) and Nominated Representative Corporations	Consistent with its understanding of the matters discussed in Section 4.9, to identify Traditional Custodian groups or individuals, Woodside:

Category	Relevant person identification methodology
	• Uses existing systems of recognition to identify First Nations groups who overlap or are coastally adjacent to the EMBA (for example, recognition provided under Native Title or cultural heritage legislation, or marine park management plans, or identification by other First Nations groups or entities) • Notifies and invites consultation with First Nations people through their nominated representative corporation (for example PBCs); or, in the case of Native Title and where appropriate, the Native Title Representative Body • Requests the nominated representative body to forward the notifications and invitations to consult to their members (members are individual communal rights holders; • Requests advice as to other First Nations groups or individuals that should be consulted • Advertises widely so as to invite self-identification and consultation by First Nations groups and individuals. Further detail to Woodsides methodology is as follows. Woodside uses the databases of the National Native Title Tribunal: • To understand whether there are any Native Title Claims (historical or current) or determinations overlapping or coastally adjacent to the EMBA • To understand whether there are any relevant Indigenous Land Use Agreements (ILUA), registered with the National Native Title Tribunal that overlap or are adjacent to the EMBA that may identify Traditional Custodians or representative bodies to contact regarding potential cultural values. Where there is a positive determination of Native Title, contacting the PBC or, where their representative is a Native Title Representative Body, contacting the Native Title Representative Body. Where appropriate, contacting the relevant Native Title Representative Body to request a list of any First Nations groups asserting Traditional Custodianship over an area of coastline adjacent to the EMBA. Review of Commonwealth and State Marine Park Management Plans that overlap the EMBA which may identify Traditional Custodians or representative bodies to contact regarding potential cultural values. In Victoria, using the Victorian Aboriginal Heritage Council data to determine whether there are any Registered Aboriginal Parties (RAP) appointed under the Aboriginal Heritage Act 2006 (Vic), that overlap or are adjacent to the EMBA. First Nations groups or individuals identified by a Traditional Custodian, nominated representative corporation, Native Title Representative Body. Request to the PBC to distribute Woodside consultation materials through its membership. Woodside is unable to contact this membership through any other means. Woodside has a number of public notification and information sharing processes by which individual Traditional Custodians can become aware of the proposed activity, its risks and impacts, and self-identify. Individuals that consider their functions, interests or activities may be affected by a proposed activity are provided an opportunity to self-identify for each EP. Woodside does not presume that self-identification for an activity, covered by another EP, automatically means that an individual/s functions, interests and activities may be

Category	Relevant person identification methodology
	affected by other activities where EMBAs overlap. This decision is for the individual to make. The public notification, information sharing, and consultation processes Woodside puts in place enables Traditional Custodians to become aware of proposed activities, assess risks and impacts to their values, and enable individuals to self-identify. Assessment of relevance: • Traditional Custodian groups, entities or individuals and Nominated Representative Corporations who are identified through the above methodology and overlap or are coastally adjacent to the EMBA are assessed as relevant.
Native Title Representative Bodies	Woodside assesses relevance for Native Title Representative Bodies using the following steps in its methodology: • A Representative Aboriginal/Torres Strait Islander Body (RATSIB) is a regional organisation appointed under the Native Title Act 1993 with prescribed functions set out in Part 11 of the Native Title Act 1993, which relate to: facilitation and assistance; certification; dispute resolution; notifications; agreement making. They are also known, and referred to here, as Native Title Representative Bodies. • Review of National Native Title Tribunal RATSIB areas that overlap or are coastally adjacent to the EMBA. Assessment of relevance: • Where the area for which a Native Title Representative Body is recognised under the *Native Title Act 1993*, overlaps with the EMBA or is coastally adjacent to the EMBA, Woodside will assess the Native Title Representative Body as relevant.
Historical heritage groups or organisations	Woodside assesses relevance for groups or organisations whose responsibilities are focused on historical heritage using the following steps in its methodology: • Using the Australasian Underwater Cultural Heritage Database to assess known records Maritime Cultural Heritage sites (shipwrecks, aircraft and relics) within the EMBA (see Section 4.9). Assessment of relevance: • Where there is a known underwater heritage site (shipwrecks, aircraft and relics) within the EMBA, the relevant group or organisation that manages the site will be assessed as relevant.
Local government and recognised local community reference/liaison groups or organisations	Woodside assesses relevance for local government and recognised local community reference/liaison groups or organisations using the following steps in its methodology: • Review of Woodside maps (developed based on data from the WA Local Government, Sport and Cultural Industries 'My Council' database and WA Local Government Association (WALGA) Local Government Directory maps to assess overlap between the local government's defined area of responsibility and the EMBA. • Woodside hosts regular community reference/liaison group meetings. Members represent a cross-section of the community and local towns interests. Representatives are from community and industry and generally include, Woodside, State Government (for instance relevant Regional Development Commissions), Local Government, Indigenous Groups, Industry representative bodies, community and industry organisations. Woodside considers these reference/liaison groups to be the

Category	Relevant person identification methodology
	appropriate recognised representatives of the local community for the oil and gas sector. • Woodside reviews the community reference/liaison group's terms of reference to determine its area of responsibility and overlap with the EMBA. For example, the Exmouth Community Liaison Group's area of responsibility in relation to Woodside's operational, development and planning activities, is defined in the terms of reference as the Exmouth sub-basin. Comparatively, the Karratha Community Liaison Group's area of responsibility is the Pilbara region (i.e., onshore). Assessment of relevance: • The local government whose defined area of responsibility overlaps the EMBA is assessed as relevant. • The community reference/liaison group whose defined area of responsibility overlaps the EMBA is assessed as relevant and consulted collectively via the relevant reference/liaison group.
Other non-government groups, organisations or individuals	Woodside assesses relevance for other non-government groups, organisations or individuals using the following steps in its methodology: • Review of Woodside's existing consultation list. • Website search of registered non-government groups or organisations (i.e., registered with an Australian Business Number (ABN) and publicly available contact information) that may have public website and/or social media material specific to the proposed activity at the time of development of the EP. • Organisation has a publicly available statement (or purpose) that clearly describes their collective functions, interests or activities. • Review of current website and/or social media material to identify targeted information which demonstrates functions, interests or activities relevant to the potential risks and impacts associated with planned activities associated with the EMBA. • Review of an organisation's/individual's feedback to consider whether their functions, interests or activities within the EMBA may be affected by the activities to be carried out under the Environment Plan. Considering interests outside the EMBA would be considered too remote and contrary to the purpose of Environment Plan consultation. Assessment of relevance: • Registered non-government groups or organisations with current targeted public material specific to the proposed activity at the time of developing the EP and who have demonstrated functions, interests or activities relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation will be assessed as relevant. • Individual demonstrates their functions, interests or activities may be impacted will be assessed as relevant.
Research institutes and local conservation groups or organisations	Woodside assesses relevance for research institutes and local conservation groups or organisations using the following steps in its methodology: • Review of Woodside's existing consultation list. • Website search for research institutes that may operate within the EMBA. This assessment is both activity and location based. • Website search for local conservation groups or organisations that regularly conduct conservation activities within the EMBA.

Category	Relevant person identification methodology
	Assessment of relevance: • Where there is known research being undertaken by a research institute within the EMBA, the research institute that is conducting the research will be assessed as relevant. • Local environmental conservation groups who regularly conduct conservation activities or have demonstrated conservation functions, interests or activities within the EMBA are assessed as relevant. This assessment is both activity and location based.

5.3.5 Regulation 25(1)(e)

In addition to assessing relevance under regulation 25(1)(d), Woodside has discretion to categorise any other person or organisation as a relevant person under regulation 25(1)(e).

5.3.6 Identification of relevant persons under regulation 25(1)(e)

Woodside adopts a case-by-case approach for each EP to assess relevance under regulation 25(1)(e).

5.3.7 Persons or organisations Woodside chooses to contact

In addition to undertaking consultation with relevant persons under regulation 25(1), from time to time there are persons or organisations that Woodside chooses to contact in relation to a proposed activity. For example, these are persons or organisations:

- that are 'not relevant' pursuant to regulation 25(1) but that Woodside has chosen to seek additional guidance from, for example, to inform the correct contact person that Woodside should consult, or engage with
- that are 'not relevant' pursuant to regulation 25(1) but have been contacted as a result of consultation requirements changing or updated guidance from the Regulator
- where it is unclear what their functions, interests or activities are, or whether their functions, interests or activities may be affected. In this circumstance, engagement is used to inform relevance under Woodside's methodology. Woodside follows the same methodology for assessing a person or organisation's relevance as it does during its initial assessment (as described in Figure 5-1 and Section 5.3.1). The result of Woodside's assessment of relevance during the development of the EP is outlined at Appendix F, Table 1.

5.3.8 Assessment of relevant persons for the proposed Activity

The result of Woodside's assessment of relevant persons in accordance with regulation 25(1) is outlined at Appendix F, Table 1 and Appendix F, Table 2.

Persons or organisations that Woodside assessed as 'not relevant' but chose to contact at its discretion in accordance with Section 5.3.4, or self-identified and Woodside assessed as 'not relevant', are summarised at Appendix F, Table 1 and Appendix F, Table 3.

5.4 Consultation material and timing

Regulation 25(2) provides that a Titleholder must give each relevant person sufficient information to allow the relevant person to make an informed assessment of the possible consequences of the activity on the functions, interests or activities of the relevant person. Regulation 25(3) provides that the Titleholder must allow a relevant person a reasonable period for the consultation.

As set out in Section 5.2, Woodside notifies relevant persons of the proposed activities, respecting that consultation is voluntary, and collaborates on a consultation approach where further engagement is sought by the relevant person. The consultation process aims to be appropriate for the category of relevant persons and not all persons or organisations will require the same level of engagement. Woodside recognises that the level of engagement is dependent on the nature and scale of the Operational Area. Woodside

acknowledges published guidance for good practice consultation, relevant to different sectors and disciplines. Woodside's methodology for providing relevant persons with sufficient information as well as a reasonable period of time to provide feedback is set out in this section.

5.4.1 Sufficient information

Woodside produces a Consultation Information Sheet for each EP. This is provided to relevant persons and organisations and is also available on Woodside's website for interested parties to access and to provide feedback on. The Consultation Information Sheet typically includes:

- a description of the proposed petroleum activity:
- the Operational Area dependant on the EP
- where the activity will take place
- the timing and duration of the activity
- a location map of the Operational Area and EMBA
- a description of the EMBA
- relevant exclusion zones
- a summary of relevant risks and mitigation and management control measures relevant to the proposed petroleum activity.

It also sets out contact details to provide feedback to Woodside.

The level of information necessary for a person or organisation to understand the impacts of the proposed activity on their functions, interests or activities may vary and may depend on the degree to which a relevant person is affected. For example, Woodside considers that relevant persons who may be impacted by planned activities in the Operational Area, as a result of temporary displacement due to exclusion zones, may require more targeted information relevant to their functions, interests or activities. Sufficient information may have been provided to a relevant person even where all documents requested by a relevant person have not been provided. Woodside acknowledges NOPSEMA's brochure entitled 'Consultation on offshore petroleum environment plans information for the community', which advises persons being consulted that they may inform Titleholders that they only want to be consulted in the very unlikely event of an oil spill.

Woodside places advertisements in selected local, state and national newspapers. This typically includes:

- the name of the EP Woodside is seeking feedback on
- an overview of the activity
- the consultation feedback date
- the ways in which a person or organisation can provide feedback.

Advertising in the local paper in the area of the activity is also consistent with the public notification process under section 66 of the *Native Title Act 1993* for Native Title applications. Woodside typically aligns advertisement feedback timeframes with the timing described below. Feedback received is assessed in accordance with Section 5.3 to determine relevance and evidenced in Appendix F, Table 1 as appropriate.

Woodside utilises a range of tools to provide sufficient information to relevant persons, which may include one or more of the following:

- Consultation Information Sheet available on Woodside's website and shared directly with relevant persons
- Summary Consultation Information Sheet, presentations or summaries specific to a particular relevant person group
- subscription available on Woodside's website to receive notification of new Consultation Information Sheets for Woodside EPs
- emails

- letters
- phone calls
- face-to-face meetings (virtual or in person) with presentation slides or handouts as appropriate
- Let's Talk newsletter – digital and hard copy
- maps outlining a person or organisation's defined area of responsibility in relation to the proposed activity, for example a fisheries management area or defence training area
- community meetings, as appropriate
- attendance at on-the-ground community events or planned regional roadshows
- broader awareness campaigns on the how to be involved in the EP consultation process.

Woodside recognises that information may be provided to relevant persons in an iterative manner during the consultation process. Woodside considers that genuine two-way engagement may be demonstrated via information on incorporation of controls, where applicable, being provided to the relevant person so that the relevant persons understand how their input has been considered in the development of the EP.

Woodside communicates with relevant persons in different ways. Woodside recognises that, as part of genuine two-way dialogue, these forms of communication may evolve including, for example due to changes to organisation representation, as relationships are further established, or a preference for an alternative form of communication is expressed by a person or organisation. There might be limitations in how Woodside can consult with relevant persons.

Typical forms of communications for categories of relevant persons are set out below.

Category of relevant persons	Typically accepted form of communications
Government departments / agencies – marine Government departments / agencies – environment Government departments / agencies – industry	Woodside applies NOPSEMA's guideline for engagement with Commonwealth government departments or agencies GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023 by using email for its consultation unless another form of communication is requested. Other forms of communication, such as phone calls, meetings and/or presentation briefings are used on request.
Commercial fisheries and peak representative bodies Recreational marine users and peak representative bodies	**Commonwealth commercial fisheries:** Email is used as the primary form of communication with Commonwealth commercial fisheries in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request. **State commercial fisheries and recreational marine users:** The Western Australian Department of Primary Industries and Regional Development (DPIRD) has responsibility for managing the Fish Resources Management Act 1994 and Aquatic Resources Management Act 2016, which limits the provision of contact details from the register to the name and business address of licence holders. Alternative forms of communication are at the licence holder's discretion. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request. **Peak representative bodies:** Email is used as the primary form of communication with commercial fishery and recreational marine user peak representative bodies in the ordinary course of business. Other forms of

	communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Titleholders and Operators	Email is used as the primary form of communication between Titleholders and operators in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Peak industry representative bodies	Email is used as the primary form of communication with peak representative bodies in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Traditional Custodians and nominated representative corporations	There are many forms of communication that Woodside uses on a case-by-case basis and as appropriate to or requested by the specific group, such as email, phone calls, meetings and community forums. Other forms of communication are used on request.
Native Title Representative Bodies	There are many forms of communication that Woodside uses on a case-by-case basis and as appropriate to or requested by the specific group, such as email, phone calls, meetings and community forums. Other forms of communication are used on request.
Historical heritage groups or organisations	NOPSEMA's guideline (GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023) for engagement with government departments or agencies is used as a reference for Woodside's approach for communicating with historical heritage groups or organisations. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Local government and recognised local community reference/liaison groups or organisations	**Local government**: NOPSEMA's guideline (GL1887 – Consultation with Commonwealth agencies with responsibilities in the marine area – January 2023) for engagement with local government is used as a reference for Woodside's approach for communicating with historical heritage groups or organisations. **Community reference/liaison groups and chambers of commerce**: Email and presentations are used as the primary form of communication with local community reference/liaison groups or organisations in the ordinary course of business. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Other non-government groups or organisations	Email is used as the primary form of communication with Other non-government groups or organisations. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.
Research Institutes and Local conservation groups or organisations	Email is used as the primary form of communication with research institutes and local conservation groups or organisations. Other forms of communication, such as phone calls, and meetings and/or presentation briefings are used on request.

Information which is provided to relevant persons for the purposes of consultation on this EP is summarised at Appendix F, Table 2.

Appendix F, Table 3 sets out the information which is provided to persons or organisations that are 'not relevant' for the purposes of regulation 25 but which Woodside has chosen to contact.

When engaging in consultation, Woodside notifies relevant persons that, in accordance with regulation 25(4), the relevant person may request that the Titleholder notifies NOPSEMA that particular information the person or organisation provides in the consultation not be published, and that information subject to that request will not be published under the Environment Regulations.

5.4.2 Reasonable period for consultation

Woodside seeks to consult in order to support preparation of its EP. Woodside recognises that what constitutes a reasonable period for consultation should be considered on a case-by-case basis, with reference to the nature, scale and complexity of the activity.

Woodside recognises that information may need to be provided to relevant persons in an iterative manner during the consultation process. Woodside considers that genuine two-way engagement may be demonstrated via information on incorporation of controls, where applicable, being provided to the relevant person so that the relevant person understands how their input has been considered in the development of the EP.

Woodside's methodology allows relevant persons a reasonable period for consultation (regulation 25(3)). A reasonable period for all relevant persons, including Traditional Custodians, to participate in consultation for this EP has been provided.

The consultation period under this EP has satisfied benchmark periods under other relevant legislative processes:

- Regulation 30 sets out a public consultation period of 30 days.
- The Department of Mines, Energy and Petroleum (DEMIRS) Guidelines for Consultation with Indigenous People by Mineral Explorers directs a period of 21-30 days of consultation with traditional owners.
- While repealed, guidance taken from the Aboriginal Cultural Heritage Act 2021—Consultation Guidelines (Government of Western Australia, 2023) suggests that up to 12 weeks may be a reasonable period to allow identification, contact and response from First Nations peoples (subject to any alternative timeframe being agreed through co-design of consultation).

This period of consultation demonstrates that Woodside has provided a "reasonable period" for relevant persons to consult in accordance with regulation 25(3). Commentary in the Tipakalippa Appeal judgment limits consultation to a process that must be capable of being discharged within a reasonable time:

"it must be taken to be the regulatory intention that the consultation requirement cannot be one that is incapable of being complied with within a reasonable time..."[7]

Woodside seeks feedback in order to support preparation of its EP. What constitutes a reasonable period for consultation is considered on a case-by-case basis, with reference to the person being consulted and the nature, scale and complexity of the activity.

Woodside's typical approach to providing a reasonable period for consultation is as follows:

- advertising in selected local, state and national newspapers to give persons or organisations the opportunity to understand the activity and identify whether their functions, interests or activities may be affected
- providing consultation materials directly to identified relevant persons as well as persons who are 'not relevant' but Woodside chose to contact and providing a target date for feedback. Woodside acknowledges that feedback may be received from relevant persons following the target date
- acknowledging that the way in which Woodside provides consultation information may vary depending on the relevant person or organisation and, may depend on the degree to which a relevant person or

[7] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [136].*

organisation is affected. Different consultation processes may be required for relevant persons and organisations depending on the information requirements

- following up with relevant persons prior to EP submission. Where possible, Woodside will endeavour to use an alternative method of communication to contact the relevant person
- engaging in two-way dialogue with relevant persons or organisations where feedback is received.

Appendix F, Table 2 and Table 3 sets out a history of ongoing consultation and demonstrates that a reasonable period of consultation has been provided.

Woodside considers that consultation for this EP has closed.

As detailed in Section 5.6, if comments and feedback are received after the EP has been submitted, Woodside will consider those comments and update controls as appropriate and at all stages of the life of the EP as per Woodside's ongoing consultation approach described in Section 5.7.

5.4.3 Discharge of Regulation 25

The Full Federal Court made clear in the *Tipakalippa Appeal* that consultation should be approached in a "reasonable", "pragmatic" and "not so literal" way, so that consultation obligations were capable of being met by Titleholders (Section 5.5.1)[8]. Consultation is a "real world activity" and must be capable of reasonable discharge[9]. The Full Federal Court referred to Native Title cases as an illustration that reasonable limits should be applied to consultation efforts to ensure the process is workable.[10]

When the Titleholder demonstrates that it has provided sufficient information and a reasonable period for consultation, then regulation 25 consultation requirements are met. Meeting these obligations requires evaluative judgement to determine reasonable satisfaction of the consultation obligation and, as such, the Regulator uses its discretion to determine if these criteria are met. The nature of the person being consulted and their function, interest and activity that may be affected, will inform the manner of consultation and the reasonable period to be afforded.

While a Titleholder is required to provide an opportunity to consult, the Titleholder is not required to obtain consent to engage in the activity from a person being consulted, or confirmation from a person being consulted, that consultation is complete. The Federal Court has commented that a "reasonable opportunity" for consultation must be afforded to relevant persons. A reasonable opportunity may not be every opportunity requested and is limited to reasonable opportunities to consult.

Woodside has completed steps required to discharge its consultation obligations. Woodside has provided sufficient information and a reasonable period of time to enable relevant persons to make an informed assessment of the possible consequences of the activity on their functions, interests or activities; and sufficient time to provide relevant feedback for Woodside to assess relevant persons' objections or claims. Woodside has also provided a reasonable opportunity for there to be genuine two-way dialogue on a person's claims or objections.

Woodside has discharged its duty under regulation 25 and considers that is complete.

Appendix F, Table 2 and Table 3 of this EP sets out the history of consultation under regulation 25. To the extent a relevant person says that they have further information to share or claims that consultation under regulation 25 has not been completed, Appendix F, Table 2 and Table 3 provide reasons why Woodside considers consultation under regulation 25 has been met, in relation to that relevant person.

5.5 Context of consultation approach with First Nations

To comply with regulation 25, Woodside identifies and consults Traditional Custodians whose functions, interests or activities may be affected by the activities under an EP.

[8] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 [89], [98], [103]-[104] and [109].*

[9] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [89].*

[10] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at [96] and [103].*

5.5.1 Approach to methodology − Woodside's interpretation of Tipakalippa Appeal

Woodside has implemented a consultation methodology consistent with regulation 25 and guidance provided in the Tipakalippa Appeal (Section 5.2). Woodside's consultation methodology allows for a sufficiently broad capture of Traditional Custodian relevant persons, provides for informed consultation, follows cultural protocols and allows a reasonable opportunity for consultation with Traditional Custodians whose functions, interests or activities may be affected by the activity described in this EP (Section 5.5.3 to 5.5.7).

Woodside notes the Full Federal Court discussed several *Native Title Act 1993* (Cth) cases in response to a submission made in that case that a requirement under regulation 25 to consult *"each and every*" relevant person would be "*unworkable*". The reference to Native Title cases dealt with how decision-making processes under the NTA requiring "*all*" members of a group to be contacted for communal approval are interpreted by courts in a "reasonable", "*pragmatic*" and "*not so literal*" way, and how obligations to consult "*each and every*" person under regulation 25 should be interpreted in a similarly pragmatic way, so that consultation is workable. The reference to NTA authorities was made by analogy:

"It can be seen that the terms of [the native title legislation] are somewhat absolute – "all". However, [the native title legislation] has consistently been construed in a way that is not so literal … The cases concerning [the native title legislation] … have reiterated … that [the native title legislation] does not require that "all" of the members of the relevant claim group be involved in the decision. The key question will be whether a reasonable opportunity to participate in the decision-making process has been afforded by the notice for a relevant meeting." [11]

"*We consider the authorities in relation to processes under the NTA to be illustrative of how a seemingly rigid statutory obligation to consult persons holding a communal interest may operate in a workable manner*" [12] (emphasis added).

"*there is no definition of what constitutes "consultation for the purpose of Reg11A [now regulation 25] ... A titleholder will need to "demonstrate" to NOPSEMA that what it did constituted consultation appropriate and adapted to the nature of the interests of the relevant persons*" [13] (emphasis added).

The Judgment in the Tipakalippa Appeal makes it clear that a Titleholder will have some decisional choice in identifying which person(s) are to be approached, how the information will be given to allow the "relevant person" to assess the possible consequence of the proposed activities on their functions, interests or activities, and how the requisite consultation is undertaken.[14] Consultation is not fixed to a rigid process and will be adapted so that it is informed by the relevant person or group. Woodside has met its regulation 25 requirements through its consultation methodology (Section 5.2).

Consistent with the Tipakalippa Appeal, Woodside considers NTA-style "full group" meetings are not required for there to be compliance with regulation 25. Nominated representative corporations (such as PBCs established under the NTA) have a designated role of representing the views of their member Traditional Custodians. They have established methods for engaging with their own members. Woodside will not undermine the purpose and authority of nominated representative corporations by requiring full group meetings where the nominated representative corporations have not requested engagement of members via full group meetings. It is not appropriate for Titleholders to direct or challenge the nominated representative corporations on how to engage with their members.

Woodside's approach described below demonstrates that sufficient information and a reasonable opportunity is provided to individual Traditional Custodians to provide feedback on Woodside activities beyond the opportunity provided to nominated representative corporations.

5.5.2 Consultation method

Woodside's First Nations team has experience in engaging and working with Traditional Custodian organisations and individuals, including within the Commonwealth Native Title and cultural heritage systems,

[11] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [98].*

[12] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [96].*

[13] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [104].*

[14] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [47] and [48].*

and state and territory cultural heritage and land rights systems. The team understands the complexities of making information accessible to groups and individuals and engaging in accordance with Traditional Custodian groups' established channels of communication and methods of consultation. Woodside's First Nations team exercises its professional judgement and is respectful of long-standing relationships (where in place) when considering consultation with Traditional Custodian groups. The First Nations team's approach is also informed by the established systems of recognition for Traditional Custodian groups and their nominated representative corporations within particular jurisdictions.

By contrast, recognition for Traditional Custodian groups and their nominated representative corporations in Western Australia falls under the *Native Title Act 1993 (Cth)* because the vast majority of the Western Australian coastline is settled under the Native Title regime. This means that the methodology and process for consultation in Western Australia places greater emphasis on, but is not limited to, Native Title Representative Bodies and PBCs.

Native Title determinations provide certainty about the appropriate Traditional Custodian groups that have the cultural authority to speak for country adjacent to the EMBA and help Woodside to identify Traditional Custodian persons and groups asserting Traditional Custodianship. The Judgment in the Tipakalippa Appeal endorses methods of consultation with groups of relevant persons that are appropriate and adapted to the characteristics of groups.[15] Woodside's consultation methodology is adapted and appropriate to the recognised systems of communal interests in Western Australia.

In Western Australia (relevant for this EP), Woodside has sought to follow the established, effective and respectful means of communication used by Native Title Representative Bodies and nominated representative corporations (including PBCs) with their respective Traditional Custodian communities. Woodside follows these processes for the appropriate broad capture of individuals' awareness of our activities, to self-identify (Section 5.5.4), and to provide feedback to inform the management of environmental impacts and risks.

Using these processes, Woodside communicates information about EPs by:

- advertising in relevant Indigenous and non-Indigenous newspapers. This encourages self-identification, by advertising proposed activities widely through newspapers that have national and intra-state circulation, i.e., Koori Mail, National Indigenous Times, The West Australian.
- creating carefully considered Summary Consultation Information Sheets with content developed by Woodside's First Nations Team to remove jargon and present information in a simplified format.
- direct contact through nominated representative corporations.
- using social media (i.e. Facebook/Instagram), texts, phone calls and emails. These mediums are the preferred communication methods used by Traditional Custodians throughout Western Australia and, on that basis, used by Native Title Representative Bodies and other government agencies and industry, to engage with Traditional Custodians or call meetings. First Nations woman, Professor Bronwyn Castle, through 10 years of research found "Social media is an intrinsic part of daily life. The use of Facebook is around 20 per cent higher [among First Nations people] than the national average across all geographical locations" (Social media mob: being Indigenous online, Professor Bronwyn Carlson (2018)).
- carrying out ongoing consultation post regulation 25 consultation, where Woodside has a Program of Ongoing Engagement with Traditional Custodians. This program sets out Woodside's commitment to ongoing engagement and support to care for and manage country, including Sea Country. The program was developed in response to Traditional Custodian feedback
- basing members of its First Nations team in Karratha and Roebourne who serve as on-Country points of contact for Traditional Custodian organisations and individuals. These team members have broad local knowledge and established, on-the-ground relationships within communities. This helps contribute to positive outcomes including distributing information and providing notice to the community to support

[15] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193 at paragraph [95].[104].[153].*

Traditional Custodian attendance and involvement at Woodside's information sessions and Community roadshows.

- ensuring that from the commencement of engagement with Traditional Custodians, Woodside seeks direction on how they prefer to be consulted and has consulted accordingly. Consultation processes that are informed by Traditional Custodians and co-designed on a case-by-case basis and includes their direction as to cultural protocols, structure of consultation and who to appropriately consult with (such as elders).
- holding meetings on Country at a place and time agreed with Traditional Custodians and offering and providing financial assistance for meeting expenses (as appropriate).
- providing information specifically designed to be easily understood, to reach all relevant people, and give a reasonable period of time for those people to make an informed assessment of the possible consequences of the proposed activity on them.

The First Nations team approach to consultation is also consistent with the Federal Court's decision in the *Munkara Case*. The *Munkara Case* notes that the word "*culture*" (and hence the word "*cultural*") has a communal aspect to it. To establish cultural features, it is necessary that the beliefs and values are held by the relevant people as a people. For values, features or beliefs that are expressed by an individual to be "cultural" they cannot simply be an individual's belief - the belief must have a communal aspect too and demonstrate that the "individual beliefs are broadly representative of the beliefs of other members of the group". The phrase "cultural features", when applied to "people" as constituent parts of an ecosystem, is not directed to idiosyncratic views or beliefs of an individual. When the First Nations team is told that a particular value is cultural by an individual Traditional Owner, that information is taken back to the relevant cultural authority to test its broad acceptance. In the case of gender sensitive information, that information would be restricted to the specific gender within the community.

5.5.3 Identification of relevant persons

To undertake consultation, Woodside has developed a methodology for identifying relevant persons, in accordance with regulation 25(1) (Section 5.2 and 5.3).

Specific to Woodside's approach for identifying relevant Traditional Custodians, Woodside's First Nations Communities Policy and consultation approach is guided by Traditional Custodians by directing consultations through their nominated representative corporation. This has been implemented by Woodside through consultation with a nominated representative corporation, where that corporation has advised Woodside that it acts as the representative body for a Traditional Custodian group and has requested that Woodside engage with it as the representative body for that Traditional Custodian group.

Woodside asks nominated representative corporations (such as PBCs) and Native Title Representative Bodies to identify individuals that should be consulted, and enables individuals to self-identify in response to national and local advertising, social media and community engagement opportunities (Section 5.5.4). Where there is a nominated representative corporation for an area, unless directed by the nominated representative corporation, Woodside does not directly approach individuals for consultation, because this has the potential to undermine the role of the nominated representative corporation. Approaching individuals directly is a practice that is no longer considered acceptable because of divisions it has been shown to cause in communities. In addition to asking for the identification of individuals, Woodside also asks nominated representative corporations to distribute consultation information to whomever the nominated representative corporations deem appropriate, including members of the nominated representative corporations who are communal rights holders.

Having said this, as set out in further detail in Section 5.5.4 below, individuals are also given the opportunity to self-identify, consult and provide their own feedback on the proposed activity. When approached in this way, Woodside will engage individuals as relevant persons and will also (subject to any confidentiality or cultural restrictions) advise the nominated representative body of the consultation where it relates to cultural values. These methods of consultation are consistent with requirements for notification under the *Native Title Act 1993* (Cth), such as under the future act provisions (section 29), which requires notification of the Native Title Representative Body, the PBC (or nominated representative) and notification through newspapers. The notification process has been selected as a respectful, practical and pragmatic analogue for consultation with First Nations peoples, rather than requiring members to be notified via a formal authorisation process which

seeks, from members, authorisation of agreements and Native Title/compensation claims under the *Native Title Act 1993* (Cth)[16].

In this consultation, Woodside requested nominated representative corporations to identify any potential individual relevant persons for consultation. Woodside requests nominated representative corporations to distribute consultation materials to their members. However, Woodside recognises that the process is voluntary and that it cannot compel nominated representative corporations (such as PBCs) to do so. Woodside also recognises that it would not be appropriate to seek to audit the nominated representative corporations for compliance with any member consultation request.

5.5.4 Opportunity to self-identify and identifying other individuals

Woodside requests nominated representative corporations and Native Title Representative Bodies to identify other individuals to consult with or individuals who may seek to self-identify for a proposed activity. Woodside also advertises broadly through Indigenous, national and local advertising, social media and community engagement opportunities to provide individuals with an opportunity to consult. Woodside does not directly approach individuals for consultation, as this undermines the role of the nominated representative corporations (Section 5.5.3). Woodside's approach to providing individual Traditional Custodians the opportunity to self-identify and consult for an EP is as follows:

- Woodside applies the principles of self-determination when consulting with Traditional Custodians by consulting through the Traditional Owners authorised representative entities.
- Recognising the function of nominated representative corporations (such as PBCs) and Native Title Representative Bodies to represent communal interests and manage cultural values, Woodside requests that the information provided to representative entities is provided to their members but Woodside recognises the process is voluntary and Woodside cannot compel them to do so, nor seek to audit the representative entities for compliance with any request.
- Representative entities cannot provide membership details to Woodside due to individual confidentiality requirements.
- Woodside requests advice as to who else Woodside should be consulting but recognises the process is voluntary and cannot compel nominated representative corporations to provide this information.
- Modern Indigenous engagement practises rely on the building and maintaining of respectful relationships. To date, most nominated representative corporations have requested the building of that relationship, where one is not already in place.
- While Woodside has, in some cases, approached individual directors and Elders outside of this process due to requirements imposed in EP consultation, this approach is considered inappropriate by modern Indigenous engagement standards, fundamentally undermining the authority of the authorised representative entity and can be detrimental to the relationship.

For this proposed activity, Woodside requested nominated representative corporations (including PBCs) and Native Title Representative Bodies to identify any potential individual relevant persons for consultation, and to distribute consultation materials to their member base. However, Woodside recognises the process is voluntary and it cannot compel them to do so nor seek to audit the representative entities for compliance with any request. Woodside has not been directed to engage individual Traditional Custodians by nominated representative corporations for this proposed activity. Woodside has nevertheless provided reasonable opportunity for individual Traditional Custodians to engage in consultation through appropriate and adapted consultation methods.

5.5.5 Sufficient information

Woodside recognises that the information sufficient to allow a person or organisation to make an informed assessment of the possible consequences of the proposed activity on their functions, interests or activities may vary and may depend on the degree to which a relevant person is potentially affected.

[16] *Santos NA Barossa Pty Ltd v Tipakalippa [2022] FCAFC 193, at [104]*

Woodside produces Consultation Information Sheets for each EP which is provided to relevant persons and organisations for the purpose of seeking feedback on the activity (Section 5.4.1). In response to feedback from Traditional Custodians on information provisions, Woodside has tailored effective consultation methods for its activities. These methods are specifically designed for Traditional Custodians, so that information is provided in a form that is readily accessible and appropriate. The targeted Summary Information Sheet is developed and reviewed by Woodside's First Nations Team to ensure that content is appropriate to the intended recipients, which is then provided to relevant Traditional Custodian groups. Phone calls are made to provide context to the consultation.

Where face-to-face consultation meetings are requested, Woodside coordinates engagement at the Traditional Custodians location of choice (where practicable) and with their nominated attendees. Along with members of Woodside's First Nations engagement team, key project personnel and environmental experts are typically present to enable effective communication and prompt response to questions. Materials for these sessions incorporate visual aids such as photos, maps and videos, and plain language suitable for people with a non-technical background.

During consultation, Woodside provides relevant persons with additional information as appropriate in response to requests. There is no requirement to provide relevant persons with all information or documents requested and a Titleholder will have provided sufficient information even where it has not provided all information or documents requested.

Woodside has sought to provide sufficient information to individual members of nominated representative corporations (such as PBCs) by providing information to representative bodies and requesting dissemination with members. However, Woodside recognises consultation is voluntary and it cannot compel them to do so, nor would it be appropriate to seek to audit the representative entities for compliance with any request.

5.5.6 Reasonable period for consultation

Woodside seeks to consult in order to support preparation of its EP. Woodside recognises that what constitutes a reasonable period for consultation should be considered on a case-by-case basis, with reference to the nature, scale and complexity of the activity (Section 5.4.2).

5.5.7 Discharge of regulation 25

Woodside's consideration and approach to discharging regulation 25 for relevant persons is discussed in Section 5.4.3. In addition to this, Woodside has considered the application of regulation 25 specific to Traditional Custodians based on the Tipakalippa Appeal.

In relation to Traditional Custodian relevant persons (and all relevant persons), Woodside has discharged its duty under regulation 25 of the Environment Regulations. Woodside considers that consultation under regulation 25 is complete (Section 5.4.3).

5.6 Providing feedback and assessment of merit of objections or claims

There are a number of ways in which feedback can be provided. Feedback can be provided through the Woodside feedback email or via the Woodside feedback toll free phone line as outlined in the Consultation Information Sheet and the Woodside website. Where appropriate, consultation may also be supported by phone calls or meetings. An EP feedback form is also available on Woodside's website enabling stakeholders to provide feedback on proposed activities, or to request additional information.

Woodside consults widely on its EPs and notes that feedback is received in various forms. Feedback that is considered inappropriate or that puts the environment, health, safety or wellbeing of Woodside employees or operations at risk will not be tolerated. Woodside respects people's rights to protest peacefully and lawfully but actions that put the environment, health, safety or wellbeing of Woodside employees or operations at risk go beyond those boundaries.

Woodside accepts feedback and engages in consultation in order to achieve the aims set out in Section 5.2. Woodside recognises that there are persons and organisations that take a view that Woodside's operations and/or growth projects should be stopped or at least delayed as far as possible. Whilst Woodside assesses the merits of objections or claims received, it acknowledges NOPSEMA's guidance in its brochure entitled Consultation on offshore petroleum environment plans information for the community, which states that

relevant persons are free to respond on any matter and raise any concern, however this may not be able to be considered if it is outside the scope or purpose of the EP and approval process, for example, statements of fundamental objection to offshore petroleum activities or information containing personal threats or profanities. Under regulation 34(g), there is no requirement for a relevant person to agree or confirm that they have been adequately consulted.

During consultation relevant persons may seek to introduce other issues (such as agreements) not specific to EP consultation. Concepts of agreements associated with broader consultation nevertheless consultation to specific EPs can occur.

Feedback from relevant persons is reviewed and an assessment of the merits is made of information provided as well as objections or claims about the adverse impact of each activity to which the EP relates. This might, for instance, be done through a review of data and literature and for relevance to the nature and scale of the activity outlined in the EP. Consistent with the aim of consultation in Section 5.2, Woodside will consider information received when reviewing and designing measures to put in place to minimise harm to relevant persons and where reasonable or practical to further manage impacts and risks to ALARP and acceptable levels.

Woodside considers feedback during consultation from relevant persons and other persons Woodside chose to contact (see Section 5.3.4 and 5.3.7). This information is summarised in Appendix F, Table 1 and Table 2 of the EP and includes a statement of Woodside's response, or proposed response, if any, to each objection and claim.

In accordance with regulation 26(8), sensitive information (if any) in an EP, and the full text of any response by a relevant person to consultation under regulation 25, must be contained in the sensitive information part of the plan and not anywhere else in the plan.

5.7 Ongoing consultation

Consultation can continue to occur during the life of an EP, including after an EP has been accepted by NOPSEMA.

As per Woodside's ongoing consultation approach (refer to Section 7.9), feedback and comments received from relevant persons continue to be assessed and responded to, as required, throughout the life of an EP, including during its assessment and once accepted, in accordance with the intended outcome of consultation.

Should consultation feedback be received following the acceptance of an EP that identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate (see Section 7.2.8).

6. ENVIRONMENTAL IMPACT AND RISK ASSESSMENT, PERFORMANCE OUTCOMES, STANDARDS AND MEASUREMENTS CRITERIA

6.1 Overview

This section presents the impact and risk analysis and evaluation, EPOs, EPSs and MC for the Petroleum Activity, using the methodology described in Section 2 of this EP. Impacts and risks associated with the Petroleum Activity are summarised in Table 6-1 and evaluated throughout this section.

Table 6-1: Environmental impact analysis summary of planned and unplanned activities

Aspect	EP section	Risk rating				Acceptability of impact/risk
		Impact/ consequence	Potential impact/consequence level	Likelihood	Current risk rating	
Planned activities (routine and non-routine)						
Physical presence: disturbance to other marine users	Section 6.6.1	F	Temporary localised impact not significant to areas/items of cultural significance.	-	-	Broadly acceptable
Physical presence: disturbance to seabed	Section 6.6.2	E	Slight and low-level impact on environmental feature/s or area/s of low significance	-	-	Broadly acceptable
Routine acoustic emissions: generation of noise during routine and non-routine operations	Section 6.6.3	F	No lasting effect, localised impact not significant to environmental receptors	-	-	Broadly acceptable
Routine and non-routine discharges: discharge of hydrocarbons and chemicals during subsea operations	Section 6.6.4	E	Slight and low-level impact on environmental feature/s or area/s of low significance	-	-	Broadly acceptable
Routine and non-routine operation discharges: produced water	Section 6.6.5	E	Slight and low-level impact on environmental feature/s or area/s of low significance	-	-	Broadly acceptable
Routine and non-routine operations: discharges from utility systems and drains	Section 6.6.6	F	No lasting effect, localised impact not significant to environmental receptors	-	-	Broadly acceptable
Routine and non-routine atmospheric (direct) and greenhouse gas emissions (direct and indirect)	Section 6.6.7	F	No lasting effect, localised impact not significant to environmental receptors	-	-	Broadly acceptable
Routine and non-routine light emissions: light emissions from the Okha FPSO facility, vessel operations and flaring	Section 6.6.8	F	No lasting effect, localised impact not significant to environmental receptors	-	-	Broadly acceptable
Unplanned activities (accidents, incidents, emergency situations)						
Unplanned hydrocarbon release: loss of well containment (MEE-01)	Section 6.7.3	A	Severe impact on a sensitive feature/s or receiving environment, such as permanent impairment on a highly sensitive area or features.	0	M	Acceptable if ALARP

Aspect	EP section	Risk rating				Acceptability of impact/risk
		Impact/ consequence	Potential impact/consequence level	Likelihood	Current risk rating	
Unplanned hydrocarbon release: subsea infrastructure loss of containment (MEE 02)	Section 6.7.5	C	Moderate impact on environmental feature/s or area/s such as impact on feature/area of heightened sensitivity with limited ability to recover	2	M	Acceptable if ALARP
Unplanned hydrocarbon release: topsides loss of containment (MEE-03)	Section 6.7.6	D	Minor impact on environmental feature/s or area/s such as impact on feature of low significance with some ability to recover	1	M	Acceptable if ALARP
Unplanned hydrocarbon release: offtake equipment loss of containment (MEE 04)	Section 6.7.7	C	Moderate impact on environmental feature/s or area/s such as impact on feature/area of heightened sensitivity with limited ability to recover	1	M	Acceptable if ALARP
Unplanned hydrocarbon release: cargo tank loss of containment (MEE-05)	Section 6.7.8	A	Severe impact on a sensitive feature/s or receiving environment, such as permanent impairment on a highly sensitive area or features.	1	H	Acceptable if ALARP
Unplanned hydrocarbon release: loss of structural integrity (MEE-06)	Section 6.7.9	A	Severe impact on a sensitive feature/s or receiving environment, such as permanent impairment on a highly sensitive area or features.	1	H	Acceptable if ALARP
Unplanned hydrocarbon release: loss of marine vessel separation (MEE-07)	Section 6.7.10	A	Severe impact on a sensitive feature/s or receiving environment, such as permanent impairment on a highly sensitive area or features.	1	H	Acceptable if ALARP
Unplanned hydrocarbon release: loss of control of suspended load from Okha lifting operations (MEE-08)	Section 6.7.11	C	Moderate impact on environmental feature/s or area/s such as impact on feature/area of heightened sensitivity with limited ability to recover	1	M	Acceptable if ALARP
Unplanned release: hydrocarbon release during bunkering/refuelling and chemical transfer, storage and use	Section 6.7.14	E	Slight and low-level impact on environmental feature/s or area/s of low significance	5	H	Acceptable if ALARP
Unplanned release: hazardous and non-hazardous solid waste management	Section 6.7.15	E	Slight and low-level impact on environmental feature/s or area/s of low significance	2	M	Broadly acceptable

Aspect	EP section	Risk rating				Acceptability of impact/risk
		Impact/ consequence	Potential impact/consequence level	Likelihood	Current risk rating	
Physical presence: interactions with live infrastructure	Section 6.7.16	E	Slight and low-level impact on environmental feature/s or area/s of low significance	1	L	Broadly acceptable
Physical presence: interactions with marine fauna	Section 6.7.17	E	Slight and low-level impact on environmental feature/s or area/s of low significance	1	L	Broadly acceptable
Physical presence: introduction of invasive marine species	Section 6.7.18	E	Slight and low-level impact on environmental feature/s or area/s of low significance	1	L	Broadly acceptable

6.2 Impacts and risks not deemed credible or outside the scope of this Environment Plan

During the ENVID, one risk was identified as either outside the scope of this EP or not relevant to the Petroleum Activity. This is described in Section 6.2.1.

6.2.1 Shallow/nearshore activities

The Petroleum Activity is in water depths between approximately 80 m and 125 m, at a distance of around 125 km from the nearest landfall (Karratha). Consequently, risks and impacts associated with shallow and nearshore activities, such as anchoring and vessel grounding, were assessed as not credible.

6.3 Cumulative impacts

Woodside has assessed the cumulative impacts of the Petroleum Activity in relation to other relevant petroleum activities that could realistically result in overlapping temporal and spatial extents, such as the subsea infrastructure from the Angel facility and the NRC which overlap the Operational Area (refer to Section 4.10.5). Where relevant, cumulative impacts are considered in the risk and impact assessments in Sections 6.6 and 6.7.

6.4 Environmental performance outcomes, standards and measurement criteria

Regulation 21(7) of the Environment Regulations requires that an EP includes EPOs, EPSs and MC that address legislative and other controls to manage the environmental risks and impacts of the activity to ALARP and acceptable levels.

The EPOs, EPSs and MC specified in this EP are consistent with legislative requirements and Woodside's standards and procedures. They have been developed based on the codes and standards, good industry practice and professional judgement outlined in Section 2.4 as part of the acceptability and ALARP justification process.

As defined in Regulation 5 of the Environment Regulations, an EPO 'for an activity, means a measurable level of performance required for the management of environmental aspects of the activity to ensure environmental impacts and risks of the activity will be of an acceptable level'.

EPOs have been set so they are consistent with the principles of ESD, as defined in section 3A of the EPBC Act and demonstrated through the acceptability process (described in Section 2.4.2), which is applied to the aspects in Section 6, taking into consideration the principles of ESD. The EPOs have been set at a level of environmental performance that is proportionate to the identified environmental impact or risk.

EPSs and MC are defined to measure environmental performance against the EPOs. EPSs are statements of what performance is required of a control to manage risks and impacts to ALARP and to an acceptable level. EPSs are used as the basis for reporting environmental performance. They also demonstrate compliance against the EPO.

MC are outlined that define how environmental performance is measured. They set the criteria to determine whether the EPOs and EPSs have been met during the activity.

For planned activities, where the activity is undertaken as described and the relevant EPS are implemented, it confirms the EPOs are being met. A breach of the EPOs or EPSs constitutes a 'recordable incident' under the Environment Regulations.

6.5 Presentation

The environmental impact and risk analysis and evaluation, demonstration of ALARP and acceptability, EPOs, EPSs and MC are presented in tabular form throughout this section, as shown in the example below. Italicised text in this example table denotes the purpose of each part of the table, with reference to the relevant sections of the Environment Regulations and/or this EP.

Context *Description of the context for the impact/risk. Regulation 21(1), 21(2) and 21(3)*		
Description of the Activity – Regulation 21(1)	*Description of the Environment – Regulations 21(2)(3)*	*Consultation – Regulation 25 and 24(b)*

Impact and risk evaluation summary *Summary of ENVID outcomes*													
Source of impact/risk *Regulation 21(1)*	***Environmental value potentially impacted*** *Regulations 21(2)(3)*						***Evaluation*** *Regulations 21(5)(6)*						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Summary of source of risk/ impact													

Description of source of impact or risk
Description of the identified risk/impact including sources or threats that may lead to the impact/risk or identified event. Regulation 21(1).

Impact or consequence assessment
Environmental value(s) potentially impacted
Discussion and assessment of the potential impacts to the identified environment value/s in accordance with Regulation 21(5) and 21(6). *Description of potential impacts to environmental values aligned to Woodside impacts and risk classifications (Section 2.2.6).*

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)17***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
ALARP/hierarchy of control tools used – Section 2.2.5				
Summary of control considered to ensure the impacts and risks are continuously reduced to ALARP. *Regulation 21(5)(c).*	*Technical/logistical feasibility of the control.* *Cost/sacrifice required to implement the control (qualitative measure).*	*Qualitative commentary of impact/risk that could be averted/ environmental benefit gained if the cost/ sacrifice is made and the control is adopted.*	*Proportionality of cost/sacrifice versus environmental benefit. If proportionate (benefits outweigh costs), the control will be adopted. If disproportionate (costs outweigh benefits), the control will not be adopted.*	*If control is adopted, reference to Control No. provided.*

17 Qualitative measure

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)17***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
ALARP statement: *Made on the basis of the environmental impact/risk assessment outcomes, use of the relevant tools appropriate to the decision type (Section 2.2.4.2) and a proportionality assessment in accordance with Regulation 34(b).*				

Demonstration of acceptability
Acceptability statement: *Made on the basis of applying the process described in Section 2.4 in accordance with Regulation 34(c)*

EPOs, EPSs and MC			
Environmental performance outcomes	***Controls***	***Performance standards***	***Measurement criteria***
EPO No. *S: Specific performance that addresses the legislative and other controls that manage the activity, and against which performance by Woodside in protecting the environment will be measured.* *M: Performance against the outcome will be measured through implementation of the controls via the MC.* *A: Achievability/feasibility of the outcome demonstrated via discussion of feasibility of controls in ALARP demonstration. Controls are directly linked to the outcome.* *R: The outcome will be relevant to the source of risk/impact and the potentially impacted environmental value18* *T: The outcome will state the timeframe during which the outcome will apply or by which it will be achieved.*	*C No.* *Identified control adopted to ensure that the impacts and risks are continuously reduced to ALARP.* *Regulation 21(5) (c).*	*PS No.* *Statement of the performance required of a control measure. Regulation 21(7)(a).*	*MC No.* *Measurement criteria for determining whether the outcomes and standards have been met. Regulation 21(7)(c).*

18 Where impact/consequence descriptors are presented within EPOs, the descriptors are aligned with the definitions provided in the Woodside Risk Matrix (refer Section 2).

6.6 Planned activities (routine and non-routine)

6.6.1 Physical presence: disturbance to other marine users

Context		
Infrastructure layout – Section 3.5 Okha FPSO facility activities – Section 3.6 IMMR activities – Section 3.7 Vessels – Section 3.8	Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Impact evaluation summary

Source of impact	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Presence of the Okha FPSO facility and subsea infrastructure						X	A	F	-	-	LCS GP PJ	Broadly Acceptable	EPO 1 EPO 2
Presence of vessels associated with routine and non-routine operation of the Okha FPSO facility						X							
Presence of IMMR vessels associated with subsea IMMR activities						X							

Description of source of impact

Presence of the Okha FPSO facility and subsea infrastructure

The Okha FPSO facility and associated infrastructure permanently occupy the seabed and have been operating since 2011. The FPSO and all permanent associated infrastructure is marked on nautical charts. The physical footprint of subsea infrastructure is highly localised and entirely contained within the Operational Area. A 500 m PSZ is established around the RTM system and FPSO and is marked on nautical charts, as described in Gazette Notice A525517. Vessels, including other marine users, are prohibited from entering the PSZ without specific authorisation from Woodside.

In the event that the FPSO disconnects from the RTM, approximately 5.5 m of the RTM protrudes above sea level and is equipped with appropriate navigational lighting.

Presence of vessels associated with the routine and non-routine operation of the Okha FPSO facility

Support vessels (facility support vessels, IMMR vessels and USVs) and offtake vessels associated with the Okha FPSO facility will operate within the Operational Area, inside and outside the PSZ. When operating within the PSZ, they will not further displace other marine users from the displacement already caused by the PSZ. However, when they are operating within the Operational Area but outside the PSZ, they may temporarily displace other marine users.

The current schedule for support vessels expects one vessel each fortnight for supply. Offtake vessels visit the Okha FPSO facility as required based on production rates. Currently, offtakes occur every six weeks.

Presence of IMMR vessels associated with subsea IMMR activities

IMMR vessels will be operating within the Operational Area, inside and outside the PSZ, during routine and non-routine IMMR activities. When operating within the PSZ, they will not further displace other marine users from the displacement already caused by the PSZ. However, when they are operating elsewhere within the Operational Area, they may temporarily displace other marine users.

IMMR vessels in the field depend on operational requirements for IMMR activities. IMMR campaigns are typically one week in duration and include IMMR activities at the typical frequencies described in Section 3.7.

Impact assessment
Environmental value(s) potentially impacted

Commercial fishing

Management boundaries for several Commonwealth and State fisheries were identified as overlapping the Operational Area. The likely presence of commercial fishers associated with these management areas has been assessed based on historic catch data, target species, fishing methods and feedback from consultation.

Commercial fishing vessels likely to operate in the vicinity of the Operational Area are participants of fisheries managed under the Mackerel Managed Fishery Management Plan 2011, Pilbara Fish Trawl Interim Managed Fishery Management Plan 1997, Pilbara Trap Limited Entry Fishery Notice 1992, and Prohibition on Fishing by Line from Fishing Boats (Pilbara Waters) Order 2006. No Commonwealth fisheries have been identified as having potential for interaction in the Operational Area, despite three overlapping Commonwealth fishery management areas.

Commercial fishers are expected to be excluded from the PSZ for the duration of the Petroleum Activity and may be temporarily displaced by intermittent IMMR activities elsewhere in the Operational Area.

The impact to commercial fishers as a result of the Petroleum Activity is considered to be a potential for highly localised displacement of effort with no lasting effect. No additional displacement or exclusion of commercial fisheries is expected in this revision of the EP.

Traditional and customary fishing

There are no traditional or customary fisheries within the Operational Area, so no displacement or exclusion to participants of these activities is expected.

Tourism and recreation

Tourism and recreation activity in the Operational Area is expected to be infrequent. There are no emergent features or natural values within the Operational Area that are considered tourist attractions. No recreational or charter fishing operators have been identified as potentially occurring within the Operational Area.

If tourism and recreation were to occur within the Operational Area, they are expected to be impacted by being excluded from the PSZ for the duration of the Petroleum Activity and may be temporarily displaced by intermittent IMMR activities elsewhere in the Operational Area.

The impact to tourism and recreation is considered to be highly localised displacement with no lasting effect.

Cultural values and heritage

The physical presence of petroleum activities has the potential to restrict access to Sea Country. However, impacts from restricting access to Sea Country are typically associated with areas that were traditionally accessed by Traditional Custodians, which is anticipated to be focused on areas adjacent to the coast. Consultation with Traditional Owners has not identified any impacts from restricting access to Sea Country due to the Petroleum Activity.

The petroleum activities operate within Sea Country, this has the potential to impact First Nations communities where they have identified an obligation to care for Country. Woodside acknowledges that Traditional Custodians connection to Country is underpinned by a cultural obligation to manage the cultural values that may be impacted within the Operational Area and surrounding EMBA. In order to ensure that this connection and cultural obligation is not impacted by the Petroleum Activity, Woodside has implemented management and controls such as ongoing consultative methods to consider all cultural features and values are managed throughout operations. Where possible, cultural safety considerations and protocols with be adopted by Okha operations in collaboration with First Nations communities.

Shipping

Considerable commercial shipping occurs in the region where the Petroleum Activity is located. This comprises commercial vessels such as:

- offtake tankers
- bulk carriers (e.g. mineral ore, salt) from Port Hedland and Dampier
- support vessels for offshore oil and gas activities
- LNG carriers from Dampier, Barrow Island and Ashburton North.

To reduce the likelihood of interactions between commercial vessels and offshore facilities, AMSA has introduced a series of shipping fairways within which commercial vessels are advised to navigate. The fairways are not mandatory, but AMSA strongly recommends commercial vessels remain within the fairway when transiting the region. Using shipping fairways is considered good seafaring practice, with Australian Ship Reporting System data from AMSA indicating cargo ships and tankers routinely navigate within the established fairways. However, no recognised shipping lanes overlap the Operational Area; the nearest fairway is approximately 35 km north-west of the Operational Area.

The presence of the Okha FPSO facility, associated subsea infrastructure and vessels will not result in impacts to commercial shipping beyond a localised exclusion of shipping traffic from the PSZ and the temporary and intermittent

exclusion when IMMR vessels are undertaking activities in the Operational Area. This is considered a localised impact and of no lasting effect.

Oil and gas

There are two oil and gas platforms in the general vicinity of the Okha FPSO facility: NRC (approximately 32 km east) and Angel (approximately 18 km west). Both are operated by Woodside. The NRC facility as well as subsea infrastructure associated with both NRC and Angel facilities are within the Operational Area (refer to Section 4.10.5).

The Petroleum Activity is not expected to restrict use of nearby oil and gas facilities. IMMR activities associated with the Petroleum Activity will be managed within Woodside to avoid disrupting the infrastructure within the Operational Area. There is not expected to be any impacts to oil and gas operators from the Petroleum Activity.

Submarine communications infrastructure on the seabed is located outside of the Operational Area (see Section 4.10.6) and therefore not expected to be impacted by planned activities.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)19***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
Vessels comply with Marine Orders for safe vessel operations, specifically: • Marine Order 21 (Safety and emergency arrangements) • Marine Order 27 (Safety of navigation and radio equipment) • Marine Order 30 (Prevention of collisions).	F: Yes. CS: Minimal cost. Standard practice.	Compliance with Marine Orders 21, 27 and 30 is required under Australian regulations and implementation is standard practice for commercial vessels as applicable to vessel size, type and class. Compliance reduces the likelihood of adverse interactions between other marine users and the Petroleum Activity.	Control based on legislative requirement – must be adopted	C 1.1
Implement the 500 m PSZ around the Okha FPSO and RTM system	F: Yes. CS: Minimal cost. Standard practice.	The PSZ is required under Australian law. Implementation reduces the likelihood of adverse interactions between other marine users and the Petroleum Activity.	Control based on legislative requirement – must be adopted.	C 1.2
Good practice				
Location of permanent infrastructure is shown on Australian Hydrographic Office (AHO) marine charts.	F: Yes. CS: Minimal cost. Standard practice.	Communicating infrastructure location through AHO marine charts allows other marine users to be aware of the Petroleum Activity and to plan their use of the marine environment in a way that is not impacted by the Petroleum Activity, thus reducing the likelihood of interactions.	Benefit outweighs cost/sacrifice.	C 1.3

19 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)19***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Notify AHO should there be any changes to the Petroleum Activity.	F: Yes. CS: Minimal cost. Standard practice.	Communicating changes to the Petroleum Activity to other marine users via the AHO ensures information is kept up to date and reduces the likelihood of adverse interactions with the Petroleum Activity.	Benefit outweighs cost/sacrifice.	C 1.4
Notify AHO no less than 4 weeks prior to commencement of activities, if vessels are undertaking activities within the Operational Area (but outside the PSZ) for more than three weeks at a time	F: Yes. CS: Minimal cost. Standard practice.	Activities likely to occur within the Operational Area and outside the PSZ are IMMR activities. These will occur as and when required for operational safety and integrity purposes. However, a typical IMMR activity is expected to last for less than one week. Should IMMR activities be required for longer than this, notification via AHO will provide other marine users with the relevant information they need to avoid the area.	Benefit outweighs cost/sacrifice.	C 1.5
Notify ARC should there be any changes to the Petroleum Activity.	F: Yes. CS: Minimal cost. Standard practice.	Communicating changes to the Petroleum Activity to other marine users via ARC ensures information is kept up to date and reduces the likelihood of adverse interactions with the Petroleum Activity.	Benefit outweighs cost/sacrifice.	C 1.6
Notify relevant government departments, fishing industry representative bodies and licence holders of vessels activities greater than 3 weeks in the Operational Area (but outside the PSZ) prior to commencement of activities.	F: Yes. CS: Minimal cost. Standard practice.	Activities likely to occur within the Operational Area and outside the PSZ are IMMR activities. These will occur as and when required for operational safety and integrity purposes. However, a typical IMMR activity is expected to last for less than one week. Should IMMR activities be required for longer than this, notification will marine users with the relevant information they need to avoid the area.	Benefit outweighs cost/sacrifice.	C 1.7
Emergency Response Plan for the USV, including communication failure between the ROC and USV, is in place when USV is used.	F: Yes CS: Minimal cost. Standard practice.	Ensures that emergency response plan is in place and able to be enacted in event of emergency.	Benefit outweighs cost/sacrifice. Controls is also standard practice.	C 1.8

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)19***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Apply a 'living heritage' management approach. Woodside seeks advice and incorporates Traditional Custodian cultural knowledge across all its activities. Cultural safety considerations are factors for our workforce and the Traditional Custodian community.	F: Yes. CS: Minimal.	Implementing the 'living heritage' approach acknowledges and pays respect to Traditional Custodian communities. It supports the transfer of cultural knowledge and is an effective strategy to manage intangible cultural values. This is relevant to managing noise impacts on species with cultural value.	Benefit outweighs cost/sacrifice.	C 2.1
Professional judgement – eliminate				
Reduce or remove the PSZ.	F: No. The PSZ is a requirement of Australian law and is a safety and environmental critical element. It cannot be reduced or removed. CS: Not assessed – control not feasible.	Not assessed – control not feasible.	Not assessed – control not feasible.	No
Professional judgement – substitute				
None identified.				
Professional judgement – engineered solution				
Install over-trawl protection on subsea infrastructure.	F: Yes. CS: Significant additional cost associated with designing, fabricating, installing and maintaining protection on subsea infrastructure.	Over-trawl protection on subsea infrastructure could mitigate the potential for commercial fishing trawl gear to damage infrastructure or result in gear loss.	Given the Operational Area overlaps a small proportion of the fisheries management area open to trawl fishing, the cost of installing over-trawl protection is considered grossly disproportionate to the social benefit. Furthermore, marking infrastructure on marine charts (control adopted above) provides trawl fishers with information to plan fishing efforts in a way that avoids subsea infrastructure.	No

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)19***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts to other marine users from the Petroleum Activity. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts/risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact assessment has determined that, given the adopted controls, potential impacts from the Petroleum Activity to other marine users may result in temporary localised impact. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts/risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 1 Impacts to relevant marine users from the Petroleum Activity will be limited by providing appropriate information and notification.	C 1.1 Vessels comply with Marine Orders for safe vessel operations, specifically: • Marine Order 21 (Safety and emergency arrangements) • Marine Order 27 (Safety of navigation and radio equipment) • Marine Order 30 (Prevention of collisions).	PS 1.1 Contracted vessels comply with Marine Orders as required by vessel size, type and class.	MC 1.1.1 Marine verification records demonstrate compliance with relevant Marine Orders.
	C 1.2 Implement the 500 m PSZ around the Okha FPSO and RTM system.	PS 1.2 The PSZ is enforced and monitored throughout the Petroleum Activity.	MC 1.2.1 Incident reports are raised for any instances of unauthorised entry into the PSZ.
	C 1.3 Location of permanent infrastructure is shown on AHO marine charts.	PS 1.3 Infrastructure is marked on AHO marine charts.	MC 1.3.1 Records demonstrate AHO is notified of the location of permanent infrastructure.
	C 1.4 Notify relevant persons should there be any changes to the Petroleum Activity.	PS 1.4 Consultation with relevant persons is completed.	MC 1.4.1 Records demonstrate relevant persons are notified of changes to the Petroleum Activity.
	C 1.5	PS 1.5	MC 1.5.1

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	Notify AHO no less than 4 weeks prior to commencement of activities, if vessels are undertaking activities within the Operational Area (but outside the PSZ) for more than three weeks at a time.	Woodside to notify AHO of activities where vessels will be in the Operational Area but outside the PSZ for more than three weeks.	Consultation records demonstrate that AHO notifications are complete.
	C 1.6 Notify AMSA's Response Centre (ARC) should there be any changes to the Petroleum Activity.	PS 1.6 Consultation with 'AMSA's Response Centre (ARC) is completed.	MC 1.6.1 Notification records demonstrate that AMSA's Response Centre (ARC) is notified.
	C.1.7 Notify relevant government departments, fishing industry representative bodies and licence holders of vessels activities greater than 3 weeks in the Operational Area (but outside the PSZ) prior to commencement of activities.	PS 1.7 Relevant government departments, fishing industry representative bodies and licence holders will be notified at least 10 days before activity commences of activities when vessels will be undertaking activities for greater than 3 weeks in the Operational Area (but outside the PSZ).	MC 1.7.**1** Consultation records demonstrate that listed relevant persons have been notified prior to commencement of activities.
	C 1.8 USV Emergency Response Plan in place and able to be enacted in event of emergency.	PS 1.8 USV Emergency Response Plan in place.	MC 1.8.1 USV Emergency Response Plan in place.
EPO 2 Woodside will actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural heritage values.	C 2.1 Apply a 'living heritage' management approach. Woodside seeks advice and incorporates Traditional Custodian cultural knowledge across our activities. Cultural safety considerations are factored for our workforce and the Traditional Custodian community.	PS 2.1 Woodside will continue to give voice to Traditional Custodians to identify interests, transmit information and express concern through ongoing consultation as identified in Section 5.7	MC 2.1.1 Records demonstrate Change Management and Management of Knowledge processes have been followed where new controls or management measures identified
		PS 2.2 Woodside will assess and where deemed practicable implement appropriate cultural	MC 2.2.1 Records demonstrate Woodside implemented cultural protocols as requested

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		protocols where requested by Traditional Custodians	

6.6.2 Physical presence: disturbance to seabed

Context		
Infrastructure layout – Section 3.5 Okha FPSO facility activities – Section 3.6 IMMR activities – Section 3.7 Vessels – Section 3.8	Physical environment – Section 4.4 Habitats and biological communities – Section 4.5 Protected species – Section 4.6 Cultural values and heritage – Section 4.9	Stakeholder consultation – Section 5

Impact evaluation summary

Source of impact	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Presence of the Okha FPSO facility and subsea infrastructure	X	X		X	X		A	F	-	-	LCS GP PJ	Broadly Acceptable	EPO 3 EPO 4
Seabed disturbance during IMMR activities	X	X		X	X			E					
Presence of suspended or redundant infrastructure remaining until EOFL	X	X		X	X			F					

Description of source of impact

Presence of the Okha FPSO facility and subsea infrastructure

The subsea infrastructure, including the RTM mooring system will be present on the seabed during operations. The presence of this infrastructure may result in localised scouring around the infrastructure and movement of the WC GEL may occur as per design and within integrity margins along its corridor.

The Operational Area includes subsea infrastructure classified as redundant (refer to Section 3.5.6). This infrastructure and any further infrastructure made redundant prior to the EOFL is maintained in accordance with the IMMR process described in Section 3.7 and will be decommissioned in accordance with the strategy in Section 7.3.

Subsea disturbance during IMMR activities

The seabed may be disturbed by IMMR activities, which include but are not limited to:

- inspections – minor, localised sediment resuspension due to ROV operations close to, or on, the seabed
- marine growth removal – minor, localised resuspension of sediment; removal of marine biota from subsea infrastructure
- sediment relocation around infrastructure – minor, localised modification of benthic habitat and resuspension of sediment
- flowline protection and stabilisation – minor, localised modification of benthic habitat within the footprint subject to rectification, protection and stabilisation, and potential installation of stabilisation materials such as concrete mattresses and grout bags.
- flowline, jumper and umbilical replacement – minor, localised modification of benthic habitat near the flowline, jumper or umbilical. In the event sandbags are used for temporary laydown of infrastructure during replacement the sand may be unable to be retrieved, resulting in a loss of 1 m^3 sand per bag.
- spool repair and replacement – minor, localised modification of benthic habitat near the spool.

The area of benthic habitat predicted to be impacted will vary depending on the nature and scale of the IMMR activity. However, typically the disturbance area is less than 100 m^2.

Impact assessment
Environmental value(s) potentially impacted

The presence of subsea infrastructure and associated IMMR activities can cause disturbance to the seabed, specifically:

- direct disturbance from the placement of materials or infrastructure on the seabed
- indirect disturbance from sediment that has moved or suspended as a result of direct disturbance.

Marine sediments and water quality

Marine sediments can become disturbed during IMMR activities or from currents, subsurface waves and seabed sediment fluid dynamics interacting with subsea infrastructure. Marine sediments may become temporarily suspended in the water column, causing temporary impacts to water quality.

Given the short-term nature of IMMR activities (typical campaigns occur for approximately one week), and the relatively small footprint of the existing subsea infrastructure, sediment loads are not expected to be significant. Furthermore, suspended sediments are expected to settle near the site of disturbance. Therefore, any impacts to marine sediments and water quality are expected to be temporary and localised with no lasting effect.

Ecosystems and habitats

Benthic habitats within the Operational Area are predominantly soft sediment with sparsely associated epifauna, which is broadly represented throughout the NWS Province. Benthic communities of the soft sediment seabed are characterised by burrowing infauna such as polychaetes. The Operational Area also partially overlaps approximately 10 km² of the 16,190 km² Ancient Coastline at 125 m Depth Contour KEF (note, the Okha FPSO facility is located 10 km to the south of this KEF), which is <0.1% of the KEF. Benthic habitat surveys in the region – including within the Ancient Coastline at 125 m Depth Contour KEF – indicate benthic habitats within the KEF are characterised by sand interspersed with areas of rubble and outcroppings of limestone pavement (AIMS, 2014, RPS, 2011). Such habitats are widely distributed in the NWMR. No significant escarpments, species of conservation significance, emergent features or areas of high biological productivity characteristically associated with the Ancient Coastline at 125 m KEF have been observed in the Operational Area.

IMMR activities involving the placement of materials will typically disturb a small area (<100 m²) of benthic habitat around existing infrastructure. The exact details and requirements for these materials are made after inspection and surveys. Seabed disturbance from replacement of subsea infrastructure such as flowlines and umbilicals is generally limited to the footprint of the infrastructure being replaced and an area either side (e.g. flowline and installation corridor). Scour and flowline movement may result in localised impacts to soft sediment habitats, typically on the scales of metres to tens of metres. Each discrete IMMR activity near the seabed is likely to cause a brief disturbance with potential to cause slight and low levels of impacts to the seabed and consequently the associated biota. Although direct disturbance activities have the potential to cause sediment to become suspended, the volume is not expected to cause smothering or burial impacts when it is deposited down-current. Biota in the region are well adapted to periodic turbidity caused by cyclones and tidal movements.

The estimated overall extent of direct seabed disturbance is extremely small in relation to the extent that the benthic habitats within the Operational Area are represented within the wider Northwest Province. Operational experience indicates disturbance to benthic habitats around subsea infrastructure associated with the Petroleum Activity is slight and causes low-level environmental impacts.

Artificial habitat provided by the subsea infrastructure will have either no adverse environmental impact or a low level of positive environmental impact by increasing biological diversity.

Socio-economic

Cultural values and heritage

The Operational Area is located on the Ancient Landscape (note, the Okha FPSO facility is located 10 km to the south of the Ancient Coastline - 125m contour KEF). First Nations archaeology has not been identified within the Operational Area. Furthermore, no sites of significance were identified by Traditional Custodians during consultation while preparing this EP. Controls have been adopted to assist in identification and management in cases where underwater cultural heritage is identified during the Petroleum Activity.

The Operational Area does not contain any shipwrecks.

Cumulative Impacts

Seabed disturbance may arise from the Okha subsea infrastructure and IMMR activities at a localised level limited to well within the Operational Area. At a regional scale, cumulative impacts also arise from the presence of other oil and gas facilities (Table 4-23) and associated subsea infrastructure and activities. The activities are expected to incur localised and temporary declines in water quality and modification of soft sediment habitat where infrastructure has a physical footprint. These impacts are considered to be temporary and, in the case of benthic habitat modification, limited relative to the vast representation of similar habitat in the Operational Area and surrounds as well as regionally. Cumulative impacts are considered to be localised and temporary, or in the case of physical footprints, to be slight relative to the presence of similar habitat in the Operational Area and regionally.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)20***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
Suspended and redundant infrastructure is monitored and maintained during the Petroleum Activity in accordance with the IMMR process.	F: Yes. CS: Minimal cost, standard practice.	Redundant and suspended subsea infrastructure is monitored and maintained to allow cost-efficient and safe removal and to meet Sections 572(2) and (3) of the OPGGS Act.	Benefit outweighs cost/sacrifice.	C 3.1
Report any potential underwater cultural heritage finds to relevant stakeholders and authorities in accordance with the Unexpected Finds Procedure, U*nderwater Cultural Heritage Act 2018* and the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.	F: Yes. CS: Minimal cost, legislative requirement.	Meets legislative requirements and community expectations.	Benefit outweighs cost/sacrifice.	C 4.1
Good practice				
Manage unexpected finds of potential underwater cultural heritage sites/features, including First Nations underwater cultural heritage, in accordance with the Unexpected Finds Procedure.	F: Yes. CS: Minimal cost, standard practice.	Allows seabed-disturbing activities to be undertaken in a manner that considers the potential for underwater cultural heritage and provides opportunity to manage the Petroleum Activity appropriately if any underwater cultural heritage is identified.	Benefit outweighs cost/sacrifice.	C 4.2
Use of cultural heritage monitors on vessels to oversee implementation of controls protecting cultural values.	F: No CS: Not feasible	Vessel POB is constrained with no ability to facilitate additional personnel	Not considered – control not feasible.	No
Project inductions to all relevant marine crew, prior to the individual commencing the activity, will include information on cultural features and heritage values, including	F: Yes CS: Minimal	Ensures workforce is suitably aware of cultural features and heritage values in the area they are operating.	Benefits outweigh cost/sacrifice.	C 4.3

20 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)20***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
tangible and intangible cultural heritage.				
Train relevant vessel crew, USV remote operators and ROV operators (via inductions) about the potential to encounter underwater cultural heritage and about their obligation to follow the Unexpected Finds Procedure.	F: Yes CS: Minimal cost, standard practice.	Ensures relevant members of the workforce are suitably aware of legal and process requirements for managing cultural features and heritage values.	Benefit outweighs cost/sacrifice.	C 4.4
An ROV survey is undertaken after maintenance or repair activities to confirm temporary equipment has been removed and to record location of any new or suspended subsea infrastructure.	F: Yes. CS: Minimal cost, standard practice.	Ensures infrastructure is appropriately managed and accounted for to allow for full decommissioning at EOFL.	Benefit outweighs cost/sacrifice.	C 3.2
Remove redundant infrastructure as soon it is not being used, nor to be used	F: Yes. CS: Removal of property throughout the operational life where it is incorporated within or located close to live infrastructure introduces additional complexities and HSE risk that can be avoided if removed during end of field life decommissioning	While subsea infrastructure is in-situ, risks and impacts to the seabed are considered to be low, so only a minor reduction in sediment /habitat disturbance from less infrastructure in the Operational Area if removal occurred immediately.	Cost of standalone retrieval work scopes are considered disproportionate to the benefit gained when considering the risks of retrieval during current operations versus risk of extending duration in-situ. Costs could be reduced by conducting progressive decommissioning campaigns across North West Shelf assets to remove redundant equipment. Wet stored subsea infrastructure is also RBI assessed and managed while preserved to ensure integrity and retrieval options are maintained for full removal. Redundant infrastructure will be decommissioned in accordance with the strategy in Section 7.3.	No

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)20***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Professional judgement – eliminate				
Vessels used for IMMR activities will be DP-capable.	F: Yes. CS: Minimal cost, standard practice.	Vessels operate on DP during routine operations to minimise interactions with the seabed.	Benefit outweighs cost/sacrifice.	C 3.3
Do not use ROVs close to or on the seabed.	F: No, ROVs are critical for undertaking IMMR activities. CS: Not assessed – control not feasible.	Not assessed – control not feasible.	Not assessed – control not feasible.	No
Professional judgement – substitute				
None identified.				
Professional judgement – engineered solution				
Monitor and maintain subsea infrastructure to manage scour and flowline movement within the integrity envelope.	F: Yes. CS: Minimal cost, standard practice.	Monitoring and managing subsea infrastructure allows scour and movement to be kept to within the integrity envelope and limits the potential for disturbing the seabed beyond what has been anticipated for the Petroleum Activity.	Benefit outweighs cost/sacrifice.	C 3.4
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts to the seabed associated with the Petroleum Activity. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts/risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact assessment has determined that, given the adopted controls, seabed disturbance from the Petroleum Activity may result in slight, low-level impact to environmental and cultural sensitivities. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts/risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 3 Seabed disturbance to be limited to planned activities and the impacts described as	C 3.1 Suspended and redundant is monitored and maintained during the Petroleum Activity	PS 3.1 Suspended and redundant infrastructure remains within the scope	MC 3.1.1 Records demonstrate suspended and redundant

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
part of the Petroleum Activity. Seabed disturbance will not occur outside the Operational Area.	in accordance with the IMMR process.	of IMMR activities conducted under this EP.	infrastructure undergoes routine inspection and maintenance.
	C 3.2 A ROV survey is undertaken after maintenance or repair activities to confirm temporary equipment has been removed and to record location of any new or suspended subsea infrastructure.	PS 3.2 Temporary equipment is removed and new or suspended equipment is recorded.	MC 3.2.1 As-left survey report confirms temporary equipment is removed and new or suspended infrastructure locations are recorded.
	C 3.3 Vessels used for IMMR activities are DP-capable.	PS 3.3 Vessels used for IMMR activities do not anchor during planned IMMR activities.	MC 3.3.1 Records demonstrate any anchoring was in an emergency or approved by Woodside.
	C 3.4 Monitor and maintain subsea infrastructure to manage scour and flowline movement within the integrity envelope.	PS 3.4 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE Technical Performance Standard(s) to prevent environment risk related damage to SCEs for: • P09 – Pipeline Systems, to maintain the minimum required mechanical integrity to prevent loss of containment due to flowline movement or scour.	MC 3.4.1 Records demonstrate implementation of SCE Technical Performance Standards(s) and Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) in order to achieve the functional objective of the control. Records may include implementation and maintain/assure and manage-change information summarised in Section 7.2.8.
EPO 4	C 4.1 Activities will be carried out in accordance with any protection declarations relevant to the Petroleum Activity, under Sections 9,10,12 of the Aboriginal and Torres Strait Islander Heritage Protection Act (ATSIHP) Act	PS 4.1 Where an object or Significant Aboriginal Area is protected by a declaration under Section 12 or Sections 9/10 respectively of the ATSIHP Act, no work inconsistent with that declaration will be conducted for the duration of that declaration.	MC 4.1.1 No non-compliances with any protection declarations relevant to the Petroleum Activity, under Sections 9,10,12 of the ATSIHP Act

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
No adverse impact to underwater cultural heritage[21] without a permit.[22]	C 4.2 Report any potential underwater cultural heritage finds to relevant stakeholders and authorities in accordance with the Unexpected Finds Procedure, *Underwater Cultural Heritage Act 2018* and the *ATSIHP Act 1984*.	PS 4.2 Report any finds of potential underwater cultural heritage in accordance with the Unexpected Finds Procedure, including to the Australasian Underwater Cultural Heritage Database.	MC 4.2.1 Records show potential underwater cultural heritage finds are reported to relevant authorities.
	C 4.3 Manage unexpected finds of potential underwater cultural heritage sites and features, including First Nations underwater cultural heritage, in accordance with the Unexpected Finds Procedure.	PS 4.3 If an underwater cultural heritage site or feature is identified, implement the Unexpected Finds Procedure.	MC 4.3.1 Records demonstrate no non-compliance with the Unexpected Finds Procedure.
	C 4.4 Train relevant vessel crew, USV remote operators and ROV operators (via induction) about the potential to encounter underwater cultural heritage and about their obligation to follow the Unexpected Finds Procedure.	PS 4.4 Relevant vessel crew (including USV and ROV operators) are made aware of the requirements of the Unexpected Finds Procedure through an induction.	MC 4.4.1 Vessel induction records demonstrate appropriate training in the potential for underwater cultural heritage and the Unexpected Finds Procedure was delivered.

21 Underwater cultural heritage is defined as any trace of human existence that has a cultural, historical or archaeological character and is located under water, in accordance with the Underwater Cultural Heritage Act 2018.

22 Permit for Entry into a Protected Zone or to Impact Underwater Cultural Heritage would be acquired under the Underwater Cultural Heritage Act 2018.

6.6.3 Routine and non-routine acoustic emissions

Context		
Infrastructure layout – Section 3.5 IMMR activities – Section 3.7 Vessels – Section 3.8 Helicopters – Section 3.8	Protected species – Section 4.6 Cultural values and heritage – Section 4.9	Stakeholder consultation – Section 5

Impact evaluation summary

Source of impact	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Noise generated from routine and non-routine operation of the Okha FPSO facility, including flaring	-	-	-	-	X	X	A	F	-	-	LCS GP PJ	Broadly Acceptable	EPO 5 EPO 2
Noise generated from routine and non-routine operation of subsea infrastructure, including the WC GEL	-	-	-	-	X	X							
Noise generated from the operation of vessel-based support and IMMR activities.	-	-	-	-	X	X							

Description of source of impact

The Okha FPSO facility, subsea operations including IMMR activities as well as vessels and helicopter operations will generate noise both in the air and underwater, due to normal operation of machinery and propeller movement. Typical noise levels for these sources are provided in Table 6-2, with more detailed descriptions provided below.

Table 6-2: Noise source levels associated with the Petroleum Activity

Acoustic noise sources	***Continuous or intermittent source***	***Estimated SPL (dB re 1 µPa SPL) @1 m unless otherwise stated***	***Frequency range***
Operations			
FPSO[1]	Continuous	181	10 Hz to 25 kHz
Wellhead choke valve[2]	Continuous	161.5	Broadband
Flowlines[3]	Continuous	113	Broadband
IMMR activities[5]			
MBES	Intermittent	210 to 247	12 to 700 (deep) 150 to 700 (shallow)
SSS	Intermittent	200 to 234	75 to 900
SBP – chirp	Intermittent	167 to 212	2 to 23
SBP – pinger	Intermittent	161 to 205	2 to 20
Ultrashort baseline/ acoustic array	Intermittent	187 to 196	18 to 36

Vessels			
Support vessel or IMMR vessel operating on DP[4]	Continuous	189	Broadband

1. *McCauley, 2002b*
2. *Woodside, 2002*
3. *McCauley, 1998*
4. *McPherson et al. (2021) in JASCO Applied Sciences, 2024a*
5. *JASCO Applied Sciences, 2015*

Operation of the FPSO

The Okha FPSO facility uses its main engine when manoeuvring to connect or disconnected from the RTM, generating underwater noise from hull vibrations and propeller rotation. These activities are typically of short duration.

Machinery such as topsides processing equipment may emit noise. Noise emitted by topsides equipment is considered unlikely to contribute significantly to underwater noise levels. However, topsides equipment and other machinery may contribute to hull vibrations, which may then be transmitted through the hull. Such noise is typically constant during routine operations.

To understand the source level for the Okha FPSO facility, underwater sound from the Ngujima-Yin and Nganhurra FPSOs, as measured by McPherson et al. (JASCO Applied Sciences, 2024a) in 2016 and at the Cossack Pioneer FPSO in 2002, was considered. The average source levels measured by McPherson et al. (JASCO Applied Sciences, 2024a) present a surrogate general FPSO with a broadband (10 Hz to 25 kHz) source level of 173.9 dB re 1 μPa^2m^2s. The Cossack Pioneer FPSO in 2002 during normal operations recorded broadband source levels up to 181 dB re 1 µPa. This included measurements when its propeller was in use (slowly turning) (McCauley, 2002a). The higher source level recorded at Cossack Pioneer is considered representative of the source level at the Okha FPSO facility at intermittent times when there is a requirement to use its main engine and propeller.

The HP and LP flare system may generate noise from combustion during non-routine flaring. Noise from flaring is emitted at the top of the flare tower, around 82 m above the main deck. Noise from the tip of the flare is not constrained and spreads spherically in all directions. Flaring noise is expected to attenuate to ambient levels within a very short distance (e.g., metres) and therefore is not considered further in the impact assessment.

Operation of subsea infrastructure

Acoustics measurements were taken on the noise generated by operating choke valves associated with the Angel Facility (JASCO Applied Sciences, 2015); a similar design is used across Okha subsea valves. These measurements indicated choke valve noise is continuous, and the frequency and intensity of noise emitted depends on the rate of production from the well. Noise intensity at low production rates (16% and 30% choke positions) were around 154 to 155 dB re 1 µPa, with higher production rates (85% and 74% choke positions) resulting in lower noise levels (141 to 144 dB re 1 µPa). Additionally, the EIS documentation for Woodside's assets across the North West Shelf report a broadband source level of 161.5 dB re 1 μPa^2m^2 for noise from wellheads (Woodside, 2022). Noise from operating choke valves is broadband in nature, with most noise energy concentrated above 1 kHz.

Noise modelling (JASCO Applied Sciences, 2024b) considered underwater noise emissions from operation of wellheads at Woodside's seabed assets and evaluated the potential for accumulated SEL over a 24-hour period. The maximum distances from the noise source to where the marine mammal behavioural response criterion of 120 dB re 1 µPa (SPL) was not exceeded was predicted to be less than 200 m. Noise is not predicted to ensonify the entire water column at or above 120 dB re 1 µPa (SPL).

Noise from wellheads, including operating of choke valves is considered minor compared to noise generated by vessels using thrusters in the area.

Subsea IMMR activities

Subsea IMMR activities may result in a localised, temporary increase in underwater noise from intermittent sources associated with various IMMR activities. IMMR activities with potential noise sources are outlined Table 6-2 and have frequency outputs ranging from 2 kHz (SBP chirp) to 900 kHz (SSS).

High-frequency acoustic signals attenuate more rapidly underwater compared to lower frequencies. Given the operating frequency of the relevant IMMR equipment, underwater noise is expected to attenuate rapidly in the water column. The position of the acoustic source in the water column influences the horizontal transmission of noise. Sources towed close to the seabed, typically via an autonomous underwater vehicle, have a smaller distance between the source and the seabed, reducing received levels in the horizontal direction due to seafloor scattering and absorption. Therefore, received noise levels at defined horizontal distances from the system are lower compared to a surface-towed source. Given the nature and scale of expected IMMR activities, the amount of noise generated during these activities is expected to be similar to, or less than, noise generated by subsea infrastructure during routine operations.

Vessels

Vessels may emit noise through the hull acting as a transducer (e.g. machinery vibration being converted to underwater noise) and through cavitation from fast-moving surfaces such as propellers and thrusters. The main source of noise from vessels – both FPSO support and IMMR vessels – relates to using DP thrusters (i.e. cavitation from thruster propellers). The vessels undertaking the Petroleum Activity are expected to spend time on DP for holding station, which requires the use of thrusters. Thruster noise (from cavitation caused by propellers) is typically the most significant noise source for vessels holding station, with other noise sources typically relatively minor (McCauley, 1998). Thruster noise is typically high-intensity and broadband in nature. McCauley (1998) measured underwater broadband noise up to around 182 dB re 1 µPa at 1 m root mean square sound pressure level (rms SPL) from a support vessel holding station in the Timor Sea. Noise modelling by JASCO Applied Sciences (2024a), references a broadband noise up to around 189 dB re 1 µPa at 1 m for an offshore support vessel under DP, as measured in McPherson et al. (2021). It is expected that noise up to this level may be generated by vessels using DP during the Petroleum Activity.

Helicopters

Helicopter operations involve take-off and landing on the FPSO and potentially IMMR vessels helidecks. Helicopter flights are at their lowest (i.e. closest point to the sea surface) during these periods of take-off and landing from helidecks, which constitutes a short phase of routine flight operations. Helicopter engine noise generates the highest underwater sound pressure when it is directly above the surface of the water, and the sound pressure diminishes as the helicopter gains altitude.

Sound emitted from helicopter operations is typically below 500 Hz (Richardson et al., 1995). The peak received level diminishes with increasing helicopter altitude, but the duration of audibility often increases with increasing altitude. Richardson et al. (1995) reported that helicopter sound was audible in air for four minutes before it passed over underwater hydrophones, but detectable underwater for only 38 seconds at 3 m depth and 11 seconds at 18 m depth. Noise levels reported for a Bell 212 helicopter during fly-over was reported at 162 dB re 1 µPa (SPL) and for Sikorsky-61 is 108 dB re 1 µPa (SPL) at 305 m (Simmonds et al. 2004). Water has a very high acoustic impedance contrast compared to air, and the sea surface is a strong reflector of noise energy (i.e., very little noise energy generated above the sea surface) crosses into and propagates below the sea surface (and vice versa) – the majority of the noise energy is reflected). The angle at which the sound path meets the surface influences the transmission of noise energy from the atmosphere through the sea surface, angles >13° from vertical being almost entirely reflected (Richardson et al., 1995). Given this, and the typical characteristics of helicopter flights within the Operational Area (duration, frequency, altitude and air speed), the opportunity for underwater noise levels to exceed the behavioural thresholds is not considered credible and is not assessed further.

Cumulative noise emissions

During the Petroleum Activity, there could be times where noise emissions arise from concurrent activities within the Operational Area. These include routine operations of the FPSO, vessels and routine or non-routine IMMR activities. There is also a potential for routine or non-routine IMMR activities over the WC GEL to be undertaken in proximity to other Woodside assets (identified in Table 4-23). However, any cumulative noise impact would be slight and occur typically once every 4 years during the WC GEL inspection (refer to Section 3.7).

Impact assessment

Environmental value(s) potentially impacted

Overview

Potential impacts from noise

Elevated underwater noise can affect marine fauna, including cetaceans, fish, turtles, sharks and rays, in three main ways (Richardson et al., 1995; Simmonds et al., 2004):

- by causing direct physical effects on hearing or other organs; hearing impairment through temporary threshold shift (TTS) or permanent threshold shift (PTS)
- by masking or interfering with other biologically important sounds, including vocal communication, echolocation, signals and sounds produced by predators or prey
- through disturbance leading to behavioural changes or displacement from important areas such as BIAs. The occurrence and intensity of disturbance is highly variable and depends on a range of factors relating to the animal and situation.

Sound propagation

Increasing the distance from the noise source usually results in the level of noise reducing, primarily because sound energy spreads with distance. The way the noise spreads (geometrical divergence) depends on several factors, such as water column depth, pressure, temperature gradients, salinity, and surface and bottom conditions.

To understand how sound propagates from the noise sources associated with the Petroleum Activity, noise modelling conducted for NWS FPSO Operations has been referenced (JASCO Applied Sciences, 2024a). The modelling study considered the following sound-producing activities associated with FPSO operations, as presented in Table 6-3:

- Woodside's NY and the Santos's Ningaloo Vision (NV) and Woodside's Pyrenees Venture (PV) as moored FPSOs.
- A typical Offshore Support Vessel (OSV) under dynamic positioning (DP),
- A typical IMMR vessel under dynamic positioning (DP).

Table 6-3 presents the modelled scenarios associated with the above sources. The modelling is considered to be a conservative representation for the FPSO and vessel activities associated with this Petroleum Activity as the sound NY FPSO's source levels are considered equivalent and the modelled scenarios (and resulting distances to thresholds and effect criteria) include additional, concurrent sound sources from neighbouring FPSO facilities and vessel activities. The modelled scenarios are also for much deeper sites (211 – 340 m) which sound propagating further in deeper water compared to shallower waters such as those in which this Petroleum activity will occur (80 – 125 m).

Table 6-3: Summary of modelled scenarios

Scenario	*Vessels / FPSO*	*Operations*	*Operation time*
1	2×FPSO, OSV	NY and Santos FPSOs moored with OSV	24 hrs
2	3×FPSO, OSV, IMMR vessel	NY, Santos and Pyrenees Venture FPSOs moored with OSV and IMMR vessel	24 hrs

The modelling predicted the distances to meet species noise effect thresholds and criteria, which have been referenced in the impact sections below.

Table 6-4 presents the maximum and 95% horizontal distances to specific SPL contours from the modelled scenarios. The SPL sound footprints represent instantaneous sound fields and do not depend on time accumulation.

Table 6-5 presents the maximum distances to frequency-weighted sound exposure levels (SEL_{24h}) thresholds, as well as total ensonified area from the modelled scenarios. The corresponding SEL_{24h} radii represent an unlikely worst-case scenario. More realistically, marine mammals (as well as fish and turtles) would not stay in the same location for 24 hours. Therefore, a reported radius for SEL_{24h} criteria does not mean that marine fauna travelling within this radius of the source will be injured, but rather that an animal could be exposed to the sound level associated with impairment if it remained in that location for 24 hours.

Table 6-4: SPL: Maximum (R_{max}) and 95% (R95%) horizontal distances (in km) to sound pressure level (SPL) from most appropriate location for considered sources per scenario

SPL (Lp; dB re 1 µPa)	*Scenario 1*		*Scenario 2*	
	R_{max} (km)	*$R_{95\%}$ (km)*	*R_{max} (km)*	*$R_{95\%}$ (km)*
180	–	–	–	–
170[a]	0.02	0.02	0.02	0.02
160	0.04	0.04	0.04	0.04
158[b]	0.05	0.04	0.05	0.04
150	0.11	0.11	0.11	0.11
140	0.35	0.34	0.52	0.37
130	1.93	1.83	2.18	2.00
120[c]	14.1	12.7	18.9	16.9
110	60.9	41.3	66.3	52.9

a- 48 h threshold for recoverable injury for fish with a swim bladder involved in hearing (Popper et al., 2014).

b-12 h threshold for TTS for fish with a swim bladder involved in hearing (Popper et al., 2014).

c- Threshold for marine mammal behavioural response to non-impulsive noise (NOAA, 2024).

A dash indicates the level was not reached within the limits of the modelled resolution (20 m).

Table 6-5: SEL_{24h}: Maximum (R_{max}) horizontal distances (in km) to frequency-weighted SEL24h permanent and temporary shift thresholds based on Southall et al. (2019) and Finneran et al. (2017), along with ensonified area (km^2)

Hearing group	*Frequency-weighted SEL24h threshold (LE,24h; dB re 1 µPa²·s)*	*Scenario 1*		*Scenario 2*	
		R_{max} (km)	*Area (km^2)*	*R_{max} (km)*	*Area (km^2)*

PTS					
LF cetaceans	199	0.10	0.03	0.10	0.05
HF cetaceans	198	–	–	–	–
VHF cetaceans	173	0.06	/	0.11	0.05
Otariid Seals	219	–	–	–	–
Sea turtles	220	–	–	–	–
TTS					
LF cetaceans	179	1.75	9.06	1.78	15.6
HF cetaceans	178	0.05	/	0.08	0.03
VHF cetaceans	153	1.54	3.24	1.72	12.4
Otariid Seals	199	0.04	/	0.04	/
Sea turtles	200	0.07	0.02	0.08	0.04

A dash indicates the level was not reached within the limits of the modelled resolution (20 m).

A slash indicates that the area is less than an area associated with the modelled resolution (0.0013 km^2).

Whilst the modelled scenarios included multiple FPSOs (with similar sound source levels to that at Okha) operating in proximity to one another, this is not the case with the Okha FPSO facility which is in excess of 50 km from other FPSOs in the region. The deeper water for the modelled sites is also likely to result in greater distances within which thresholds are exceeded than would be expected in the shallower waters that the Okha FPSO occupies. The modelling however provides a useful, albeit conservative assessment of the distances to meet species noise effect thresholds and criteria from various concurrent activities (e.g. FPSO, support vessels and IMMR) and has been applied in the impact assessments below.

Species

Cetaceans

Species sensitivity and exposure thresholds

Marine mammals and especially cetaceans rely on sound for important life functions, including recognising individuals, socialising, detecting predators and prey, navigating and reproducing (Weilgart, 2007; Erbe et al., 2015; Erbe et al., 2018). Underwater noise can affect marine mammals in various ways, including communications (masking) interference, behavioural changes, a shift in the hearing threshold (PTS and TTS), physical damage and stress (Rolland et al., 2012; Erbe, 2012). Frequency-specific hearing sensitivity differs among marine mammals, influencing how they are affected by noise exposure. For the purposes of predicting the effects of noise exposure on different groups of cetaceans, humpback whales and other large mysticete (baleen) whales are categorised as low-frequency cetaceans, while odontocetes (toothed whales and dolphins) are categorised as high-frequency or very-high-frequency cetaceans (Southhall et al., 2019).

The thresholds that could result in behavioural response for cetaceans are expected to be 120 dB re 1 µPa (SPL) for continuous noise sources, and 160 dB re 1 µPa (SPL) for impulsive noise sources (Table 6-6). These thresholds have been adopted by the United States (US) National Oceanic and Atmospheric Administration (NOAA) (Southhall et al., 2019; National Marine Fisheries Service [NMFS], 2014; National Marine Fisheries Service, 2018, NOAA, 2024).

Updates to the recommended thresholds in October 2024(NMFS, 2024) are also shown in Table 6-6, with slightly increased PTS and TTS thresholds across all cetacean hearing groups exposed to impulsive and continuous noise (non-impulsive), with the exception of slightly lower PTS and TTS thresholds for low-frequency cetaceans exposed to continuous noise (non-impulsive). Adopted thresholds are based on best data available and published in peer-reviewed literature and represent conservative internationally accepted and applied impact evaluation thresholds (see Table 6-6).

To better understand any effect of the new lower thresholds to the assessment process of PTS and TTS impacts on key LF cetacean receptors, Woodside commissioned JASCO to re-model two of the conservative scenarios associated with the Woodside Scarborough Operations EP using the new threshold criteria. The outcomes of this re-modelling exercise were considered indicative of the relative change that could be realised if lower thresholds were applied to predicted outcomes for LF cetaceans from other modelling studies. In this EP, the highest percentage increases in maximum distances of the area ensonified above PTS and TTS thresholds from the Scarborough Operations EP's re-modelled scenarios were applied (60% for TTS and 180% for PTS).

Noise modelling referenced in this section whilst not applying the NMFS (2024) thresholds remains relevant and conservative in informing the impacts and risks from the Petroleum Activity noise sources, where appropriate the

percentage increases in maximum distances of the area ensonified based on the Scarborough noise remodelling has been applied.

Table 6-6: Thresholds for permanent threshold shift, temporary threshold shift and behavioural response onset for cetaceans affected by low, high and very high frequencies for continuous and impulsive noise

Hearing group	*Impulsive*					*Continuous*		
	PTS onset		*TTS onset*		*Behaviour response*	*PTS onset*	*TTS onset*	*Behaviour response*
	SEL_{24h}	*PK*	*SEL_{24h}*	*PK*	*PK*	*SEL_{24h}*	*SEL_{24h}*	*SPL*
Low frequency cetaceans	183	219 (222)*	168	213 (216)*	160	199 (197)*	179 (177)*	120
High frequency cetaceans	185 (193)*	230	170 (178)*	224	160	198 (201)*	178 (181)*	120
Very high frequency cetaceans	155 (159)*	202	140 (144)*	196	160	173 (181)*	153 (161)*	120

SEL_{24} (24-hour sound exposure level) expressed as dB re 1 µPa^2.s; peak pressure (PK) and SPL expressed as dB re 1 µPa.

** Source: Updated Thresholds: NMFS 2024.*

Predicted underwater noise impacts to cetaceans

FPSO Facility, Support and IMMR Vessel Noise Impacts

PTS and TTS thresholds for LF cetaceans are 199 dB re 1 µPa2 s (SEL weighted) and 179 dB re 1 µPa2 s (SEL weighted), respectively for continuous noise sources (refer Table 6-6). Based on the noise modelling for FPSO and vessel activities, typical sound exposures generated by the Okha FPSO facility and a support or IMMR vessel using DP would not exceed these levels (except at extremely close ranges to the source), so PTS and TTS in LF cetaceans, such as large baleen whales, is not anticipated.

Potential impacts to cetaceans may instead include behavioural disturbance from support or IMMR vessels when on DP. The behavioural response threshold applied for continuous noise sources such as the FPSO operations and vessels (including those vessels on DP, refer Table 6-6) was the NOAA marine mammal behavioural response criterion of 120 dB re 1 µPa (SPL). Surrogate acoustic modelling referred to above (Table 6-3) for combined operating FPSOs (moored) and support and IMMR vessels on DP predicted the maximum distances to this threshold ranged between 14.1 km (Scenario 1) and 18.9 km (Scenario 2). Low-frequency cetaceans is the marine mammal group whose TTS and PTS ranges are the farthest in all scenarios. For TTS, the maximum distance for accumulated SEL_{24h} scenarios for low-frequency cetaceans were between 1.75 km (Scenario 1) and 1.78 km (Scenario 2). For PTS, the maximum distances for accumulated SEL_{24h} criteria from Southall et al. (2019) were 0.1 km in both scenarios. Applying the highest percentage increases in maximum distances of the area ensonified above PTS and TTS thresholds from the Scarborough Operations EP's re-modelled scenarios (60% for TTS and 180% for PTS) the TTS extends to 2.8 km (Scenario 1) and 2.85 km (Scenario 2). For PTS this extends to 0.28 km (both Scenarios).

The nearest recognised BIAs for cetaceans is the humpback whale migration BIA, located approximately 29 km south of the Operational Area. The pygmy blue whale migration BIA is located beyond the Operational Area (approximately 42 km northwest). Both humpback and pygmy blue whales are only expected to be present during their seasonal migrations. The Operational Area is surrounded by open water, with no restrictions (e.g., shallow waters, embayments) to an animal's ability to avoid the activities. Behavioural responses by cetaceans (such as pygmy blue whales and humpback whales) may result in a deviation in course during migration, which is expected to be insignificant in the context of the long distances over which individuals migrate (thousands of kilometres). Interactions between pygmy blue whales or humpback whales with vessels typically result in avoidance behaviour, with whales generally moving away from vessels. In summary, potential impacts to pygmy blue whales, humpback whales and other cetaceans from predicted noise levels are expected to be limited to behavioural impacts within a localised area around vessels with no lasting effect.

IMMR Activities

Zykov (2013) conducted acoustic modelling for five low energy survey instruments off the coast of California, including MBES, SSS and sub-bottom profiler. All equipment types were modelled in the sandy bottom environment, similar to that of the PAA. Although the bathymetry, salinity, water temperature and sub-seafloor sediment type may differ, given the similarities in equipment type and seafloor habitat, the modelling is considered comparable for the nature and scale of the low energy IMMR survey equipment.

The high operating frequencies of MBES and SSS places the majority of sound frequencies above the auditory range of LF cetaceans. Dolphins and other HF cetaceans, which have peak hearing sensitivity up to 110 kHz, with potential for some limited hearing ability up to approximately 160 kHz (Popper et al., 2014), may be able to detect a small amount of the sound energy from some instruments in the lower operating frequency ranges available for MBES and SSS (Zykov, 2013).

The modelling by Zykov (2013) indicates that the sound emissions from MBES and SSS do not exceed PTS and TTS accumulated sound exposure criteria for LF cetaceans at any distance, and do not exceed criteria for HF cetaceans beyond 2 to 3 m horizontal distance from the source, which is not considered to be a credible exposure scenario for mobile marine fauna. Zykov (2013) also estimated the maximum distance at which the unweighted 160 dB re 1 µPa (SPL) behavioural disturbance threshold for impulsive sound was reached was 290 m for MBES and 690 m for SSS. Again, it is emphasised that many MBES and SSS instruments may operate at frequencies outside of the hearing range of cetaceans and so these would not be audible or result in behavioural disturbance. For instruments with frequencies that overlap with the hearing ranges of cetaceans, a significant proportion of the sound energy may still be outside of their hearing ranges; therefore, the perceived sound levels are reduced and the horizontal distances at which behavioural disturbances may occur are less than those inferred by the unweighted 160 dB re 1 µPa (SPL) behavioural disturbance threshold. For example, modelling of weighted SPLs by Zykov (2013) for MBES indicated that the 160 dB re 1 µPa (SPL) behavioural threshold was not exceeded for LF cetaceans at any distance and was limited to approximately 205 m horizontal distance for HF cetaceans. For SSS, the modelling of weighted SPLs indicated that the 160 dB re 1 µPa (SPL) behavioural threshold was exceeded at horizontal distances of 110 m for LF cetaceans and 611 m for HF cetaceans.

Acoustic modelling of sub-bottom profilers by Zykov (2013) and McPherson and Wood (2017), indicates limited horizontal sound propagation outside of the main directional field of sound. The modelling studies also indicate that PK and SEL_{24h} thresholds for PTS are not exceeded. The potential for TTS resulting from SEL_{24h} is limited to within a few metres from the moving sound source (Zykov, 2013; McPherson and Wood, 2017), which is not considered to be a credible exposure for mobile marine fauna. Exceedance of the 160 dB re 1 µPa SPL behavioural response threshold for impulsive sound is limited to within a few metres in most instances, or up to a maximum of 50 m depending upon which SBP instrument is used, water depth and the seabed sediment characteristics (Zykov, 2013; McPherson and Wood, 2017).

Potential impacts to cetaceans from MBES, SSS and sub-bottom profiler may, therefore, include behavioural disturbance if in close proximity to the survey instruments, but ranges to disturbance are less than or equivalent to disturbance ranges for the IMMR vessel itself. PTS or TTS are not considered credible, given individuals would need to be directly next to the noise sources for prolonged duration.

Potential impacts from predicted noise levels from the Okha FPSO facility, support vessels, and IMMR survey activities are not considered to be ecologically significant at a population level.

Marine turtles

Species sensitivity and exposure thresholds

There is a paucity of data regarding how marine turtles respond to underwater noise. The Recovery Plan for Marine Turtles (Commonwealth of Australia, 2017) notes there is limited information available about the impact of noise on marine turtles and that the impact on turtle stocks may vary depending on whether exposure is short (acute) or long-term (chronic). However, turtles have been shown to respond to low-frequency sound, with indications they have the highest hearing sensitivity in the frequency range 100 to 700 Hz (Bartol and Musick, 2003).

McCauley et al. (2000) observed the behavioural response of caged green and loggerhead turtles to impulsive sound (an approaching seismic airgun). For received levels above 166 dB re 1 µPa SPL, the turtles increased their swimming activity; above 175 dB re 1 µPa, they began to behave erratically, which was interpreted as an agitated state. The 166 dB re 1 µPa SPL has been used as the threshold level for a behavioural disturbance response by the US National Marine Fisheries Service (2018) and is applied to this impact assessment. No quantitative (numerical) thresholds have been developed for behavioural effects from continuous sources (e.g. vessel noise) on marine turtles. However, Popper et al. (2014) propose qualitative impact criteria for near-field, intermediate and far-field exposures.

Finneran et al. (2017) present thresholds for turtle PTS and TTS for both impulsive and continuous sound exposures. The thresholds listed in Table 6-7 are considered appropriate for assessing the effects from impulsive and continuous sound sources during the Petroleum Activity.

Table 6-7: Thresholds for permanent threshold shift, temporary threshold shift and behavioural response onset in marine turtles for continuous and impulsive noise

Hearing group	Impulsive			Continuous		
	PTS onset thresholds: SEL24h (dB re 1 µPa²·s)	***TTS onset thresholds: SEL24h (dB re 1 µPa²·s)***	***Behavioural response (dB re 1 µPa)***	***PTS onset thresholds: SEL24h (dB re 1 µPa²·s)***	***TTS onset thresholds: SEL24h (dB re 1 µPa²·s)***	***Behavioural response (dB re 1 µPa)***

Marine turtles	204	189	166[1] 175[2]	220	200	(N) High (I) Moderate (F) Low[3]

Source: PTS and TTS thresholds (Finneran et al, 2017).

1. *Behavioural response threshold (impulsive) (National Marine Fisheries Service, 2018).*
2. *Behavioural disturbance threshold (impulsive) (McCauley et al. 2000).*
3. *Behavioural response threshold (continuous) (Popper et al, 2014)*

Note: The sound units provided in Table 6-7 for continuous noise include relative risk (high, medium and low) for marine turtles at three distances from the source, defined in relative terms as near (N – tens of metres), intermediate (I – hundreds of metres) and far (F – thousands of metres) (Popper et al., 2014).

Predicted underwater noise impacts to turtles

Okha FPSO Facility and Support Vessel Noise Impacts

Although there are no quantitative sound exposure thresholds for impacts on marine turtles resulting from continuous noise sources, the relative risk for behavioural response is expected to be high within tens of metres of the source, medium within hundreds of metres and low within kilometres from the source (refer Table 6-7). PTS and TTS thresholds for turtles are 220 dB re 1 µPa2 s (SEL weighted) and 200 dB re 1 µPa2 s (SEL weighted), respectively (refer Table 6-7). Typical noise levels generated by the FPSO facility and a support vessel using DP would not exceed these levels (except at extremely close ranges to the source), and prolonged exposure of transient marine turtles at close range is not considered a credible scenario.

Surrogate acoustic modelling referred to above (Table 6-3) for combined operating FPSOs and support and IMMR vessels on DP used the threshold criteria from Finneran et al. (2017) to assess PTS and TTS for sea turtles. Across all scenarios, the maximum distances to threshold were 80 m for TTS and were not reached within the limits of the modelled resolution for PTS.

The Operational Area is unlikely to represent important habitat for marine turtles, given the absence of potential nesting or foraging habitat (i.e. no emergent islands, reef habitat or shallow shoals) and the water depth (approximately 80 to 125 m). The closest identified marine turtle BIA or critical habitat to the Operational Area is an internesting buffer for flatback turtles, located approximately 15 km from the Operational Area. Marine turtles are also capable of moving away from potential noise sources, and there are no constraints to their movement within the Operational Area. Therefore, impacts to marine turtles from vessels or the Okha FPSO are expected to be of no lasting effect.

IMMR Activities

As outlined above for cetaceans, Zykov (2013) conducted noise modelling for low energy survey instruments, with the modelling for MBES, SSS and sub-bottom profiler considered comparable for the nature and scale of the low energy IMMR survey equipment. The operating frequencies of MBES (12 to 700 kHz) and SSS (75 to 900 kHz) are well above the hearing range of turtles (0.1 to 2 kHz) and so no disturbance is expected. It is possible that some of the lower frequency sound emitted by sub-bottom profilers (2 to 30 kHz) may be audible to turtles, but again, a large proportion of the sound energy may be at frequencies that are outside of their normal auditory range. Modelling of impulsive sub-bottom profiler sound emissions by Zykov (2013) and McPherson and Wood (2017) indicates that the 166 dB re 1 µPa (SPL) behavioural disturbance threshold for turtles may only be exceeded within metres or tens of metres of the survey instruments. Therefore, behavioural impacts would be highly localised. PTS or TTS is not considered to be credible given the rapid attenuation of sound close to the source and a large proportion of the sound energy is produced at frequencies outside the peak hearing frequency range of turtles.

Potential impacts from predicted noise levels from the Okha FPSO facility, vessels, and IMMR survey activities are expected to be of no lasting effect.

Fish

Species sensitivity and exposure thresholds

Fishes are primarily sensitive to the particle motion component of sound at close range to a sound source, while the presence of the swim bladder results in a varying degree of sensitivity of some fishes to sound pressure (Popper et al, 2014; Finneran, 2017). Consequently, fishes are broadly categorised into three groups with respect to their hearing capabilities that are relevant to the types of fishes and sharks that may be present in the Operational Area ((Popper et al, 2014):

- Fishes with no swim bladder or other gas chamber (e.g. sharks, mackerels) – These are sensitive only to particle motion, not sound pressure changes.
- Fishes with swim bladders, but without a direct connection between the swim bladder and the inner ear (e.g. demersal snappers and emperors) – Hearing primarily involves particle motion with some limited ability to indirectly detect changes in sound pressure.

- Fishes with a swim bladder or other gas volume connected directly to the inner ear (e.g. herrings, sardines, pilchards, shads) – These fishes can detect both sound pressure and particle motion.

Sound exposure criteria applicable to continuous sound sources are presented in Table 6-8. Popper et al. (2014) propose relative risk criteria (high, moderate, low) for injury, impairment and behavioural effects to fishes at three distance categories: near (N – tens of metres from the source), intermediate (I – hundreds of metres from the source), and far (F – kilometres from the source).

Table 6-8: Impact thresholds to fish, sharks and rays for continuous noise

Receptor	***Mortality potential mortal injury***	***Impairment***			***Behaviour***
		Recoverable injury	***TTS***	***Masking***	
Fish: no swim bladder	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	(N) Moderate (I) Low (F) Low	(N) High (I) High (F) Moderate	(N) Moderate (I) Moderate (F) Low
Fish: swim bladder not involved in hearing	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	(N) Moderate (I) Low (F) Low	(N) High (I) High (F) Moderate	(N) Moderate (I) Moderate (F) Low
Fish: swim bladder involved in hearing	(N) Low (I) Low (F) Low	170 dB SPL for 48-hours	158 dB SPL for 12-hours	(N) High (I) High (F) High	(N) High (I) Moderate (F) Low
Fish eggs and fish larvae	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	(N) Low (I) Low (F) Low	(N) High (I) Moderate (F) Low	(N) Moderate (I) Moderate (F) Low

Note: The sound units provided in Table 6-8 include relative risk (high, medium and low) for fish (all types) at three distances from the source defined in relative terms as near (N – tens of metres), intermediate (I – hundreds of metres) and far (F – thousands of metres) (Popper et al., 2014).

Predicted underwater noise impacts to fish

Facility and Support Vessel Noise Impacts

Surrogate acoustic modelling referred to above (Table 6-3) for combined operating FPSOs and support and IMMR vessels on DP predicted that sound levels associated with recoverable injury and TTS for fish species with a swim bladder involved in hearing were reached only in close proximity to the sound sources, but in order for the thresholds to be exceeded, the fish must remain within those distances for either 48 or 12 h, respectively.

The foraging BIA for whale shark overlaps the Offshore Facility Operational Area, and the species may be seasonally present (particularly between March and July) during their annual migration to and from the aggregation area off Ningaloo Reef. Currently, there are no quantitative sound exposure thresholds relevant to whale sharks. It is expected that the potential effects of noise on whale sharks are the same as for other fish species, resulting in minor, localised and temporary behavioural change such as avoidance. Therefore, impacts to whale sharks from Okha FPSO facility and vessels are expected to be of no lasting effect.

IMMR Activities

As outlined above, Zykov (2013) conducted noise modelling for low energy survey instruments, with the modelling for MBES, SSS and sub-bottom profiler considered comparable for the nature and scale of the low energy IMMR survey equipment. The operating frequencies of MBES (12 to 700 kHz) and SSS (75 to 900 kHz) are well above the peak hearing ranges of fish (100 Hz to several kHz) and so no disturbance is expected. It is possible that some of the lower frequency sound emitted by sub-bottom profilers (2 to 30 kHz) will be audible to fish, but again, a large proportion of the sound energy may be at frequencies that are outside of their normal auditory range. Therefore, behavioural impacts would be highly localised. PTS or TTS is not considered to be credible given the rapid attenuation of sound close to the source and a large proportion of the sound energy is produced at frequencies outside the peak hearing frequency range of fish.

Potential impacts from predicted noise levels from the Okha FPSO facility, vessels and IMMR activities are expected to be of no lasting effect.

Cultural values and heritage

Through consultation and review of available literature (Section 4.9), Woodside understands marine fauna that may be affected by noise emissions, such as marine mammals and turtles, are culturally important to Traditional Custodians. Traditional Custodians value these species both tangibly and intangibly, as they can be considered a

resource or linked to Songlines and dreaming stories. Traditional Custodians also have connection to many marine species through kinship and totemic systems; an individual may be obligated to care for a species to which they are kin. Traditional Custodians may also have a cultural obligation to care for the environmental values of Sea Country.

For example, activities that impact turtle populations and their marine environment may have an indirect impact on some Indigenous communities if they deplete hunting areas and threaten local food security (Delisle et al., 2018). Whale species are subjects of First Nations' increase ceremonies/rituals. As these thalu ceremonies are performed to maintain and increase populations of marine species, it is considered that management applies at the species/population level and not to individuals. For example, it is anticipated the thalu site on Murujuga, which "brings in whales to beach", will continue to serve its purpose so long as whales continue to migrate through Mermaid Sound.

Related intangible cultural heritage may include the transmission of cultural knowledge about whales and whale behaviour, including birthing areas, whale communication and migratory patterns. Such cultural knowledge may be associated with various cultural functions and activities that support the social and economic life of a community (Fijn, 2021). Inter-generational transmission of cultural knowledge (including songlines) relating to marine reptiles may be impacted where changes results in reduced sightings (e.g. through population decline, changes to migration routes or changes to migration seasonality). This transfer of knowledge may be integral to managing a group's intangible cultural heritage (United Nations Educational, Scientific and Cultural Organisation, 2003).

As described, potential impacts to marine fauna are predicted to be at an individual level, which are not considered to be ecologically significant at a population level. Impacts are not expected to occur to ecologically significant proportions of the populations of the species, nor expected to result in a decrease of the quality of the habitat such that the extent of these species is likely to decline. As such, cultural values and intangible cultural heritage associated with these species are expected to be maintained.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[23]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
Implement EPBC Regulations 2000 Part 8 Division 8.1 Interacting with Cetaceans, which includes the following: • vessels will not travel greater than 6 knots within 300 m of a cetacean (caution zone). • vessels will not approach closer than 50 m for a dolphin and/or 100 m for a whale (with the exception of animals bow riding). • if the cetacean shows signs of being disturbed, support vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots	F: Yes. CS: Minimal cost. Standard practice.	EPBC Regulations 2000 Part 8 Division 8.1 Interacting with Cetaceans includes requirements relating to the speeds vessels can travel within particular distances of cetaceans. Reducing the speed vessels travel can also reduce the sound levels that are produced, reducing the potential impact cetaceans could experience from support and IMMR vessels associated with the Petroleum Activity.	Control based on legislative requirement – must be adopted.	C 5.1

23 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[23]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Vessels will comply with Biodiversity Conservation Regulations (WA) 2018 for whale shark speed control and separation distances: Vessels will not travel greater than 6 knots within 250 m of a whale shark and not allow the vessel to approach closer than 30 m of a whale shark.	F: Yes. CS: Minimal cost. Standard practice.	Implementing controls to reduce vessel speed around whale sharks can potentially reduce the underwater noise footprint of a vessel.	Benefit outweighs cost/sacrifice.	C 5.2
Good practice				
Implement an adaptive management procedure.	F: Yes. CS: Moderate cost associated with dedicated trained crew members.	An adaptive management procedure allows the Petroleum Activity to be modified if a sensitive receptor is identified near the noise source. However, given the limited overlap between the Operational Area and BIAs for sensitive fauna, it is unlikely the activity will interact with protected species. Furthermore, if an individual is identified, the continuous nature of Okha operations means it is unlikely any meaningful reduction in noise could occur in its presence.	Due to the limited potential benefit from the proposed control and the moderate cost associated with implementing it, the cost outweighs any potential benefit.	No
Vary the timing of the Petroleum Activity to avoid migration periods.	F: No, the Petroleum Activity occurs continuously. CS: Not considered, control not feasible.	It is not feasible to vary the timing of the Okha FPSO facility operations due to the continuous nature of the activities in the Operational Area. Varying the timing of vessel IMMR activities may reduce risk of impacts from noise emissions / vessel presence during environmentally sensitive periods for listed marine fauna (e.g. whale shark foraging periods) (refer to Table 4-13). However, the timing of these IMMR activities is subject to operational requirements	Cost/sacrifice outweigh benefit. Rescheduling IMMR activities outside of the sensitive period for marine fauna will not result in significant environmental benefit and may result in asset integrity risks or operational issues.	No

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[23]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
		and are needed to ensure infrastructure integrity. Given the low risk to marine fauna in the region, rescheduling IMMR activities outside of the sensitive period for marine fauna will not result in significant environmental benefit and may result in asset integrity risks.		
Have a dedicated, trained and experienced marine fauna observer to observe for marine fauna.	F: Yes. CS: Moderate cost associated with dedicated trained crew members.	Using a marine fauna observer could increase the changes of sighting marine fauna. However, given the limited overlap between the Operational Area and BIAs for sensitive fauna, it is unlikely the activity will interact with protected species and therefore the potential for sightings is limited.	Cost/sacrifice outweigh benefit.	No
Use passive acoustic monitoring onboard vessels to identify the presence of cetaceans.	F: No, passive acoustic monitoring is not considered appropriate for detecting baleen whale, which is the group of whales most likely to be closest to the Operational Area. CS: Not considered, control not feasible.	Not considered, control not feasible.	Not considered, control not feasible.	No
Apply a 'living heritage' management approach. Woodside seeks advice and incorporates Traditional Custodian cultural knowledge across all its activities. Cultural safety considerations are factors for our workforce and the Traditional Custodian community.	F: Yes. CS: Minimal.	Implementing the 'living heritage' approach acknowledges and pays respect to Traditional Custodian communities. It supports the transfer of cultural knowledge and is an effective strategy to manage intangible cultural values. This is relevant to managing noise impacts	Benefit outweighs cost/sacrifice.	C 2.1

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[23]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
		on species with cultural value.		
Professional judgement – eliminate				
Implement a shutdown zone around MBES, SSS and SBP for: • whales • marine turtles • whale sharks.	F: Yes, only when species are visible from the topsides or vessel deck. CS: Moderate cost associated with dedicated trained crew members.	There is limited benefit from implementing shutdown procedures for the MBES, SSS and SBP. This is on the following basis: • Noise from these sources is unlikely to extend to any BIAs for whales or marine turtles and whale sharks are expected to display avoidance behaviour before reaching any PTS and TTS thresholds. • Control can only be implemented for individuals that are visible from the surface and would not benefit species that are located closer to the noise source. • The nature and scale of IMMR activities using this equipment is limited in duration and frequency.	Cost/sacrifice outweigh benefit.	No
Eliminate the use of DP on vessels during the Petroleum Activity.	F: No. Support vessels and IMMR vessels are required to hold station during the Petroleum Activity to avoid loss of vessel separation. This control would result in an unacceptable safety and environmental risk. CS: Not considered, control not feasible.	Not considered, control not feasible.	Not considered, control not feasible.	No

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[23]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Restrict IMMR activities to outside ecologically sensitive periods for cetaceans and turtles.	F: Yes, only when IMMR activities are not critical to infrastructure integrity. CS: Moderate cost.	Restricting IMMR activities will have limited environmental benefit as their noise levels are not expected to reach BIAs for turtles and cetaceans and the duration and frequency of IMMR activities are limited.	Cost/sacrifice outweigh benefit.	No
Professional judgement – substitute				
None identified.				
Professional judgement – engineered solution				
Apply bubble curtains to reduce noise propagation.	F: No. Installing and operating bubble curtains in offshore open water is not feasible due to technical constraints caused by water depths and currents. CS: Not considered, control not feasible.	Not considered, control not feasible.	Not considered, control not feasible.	No
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with acoustic emissions from the Petroleum Activity. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts/risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact/risk assessment has determined that, given the adopted controls, acoustic emission from the Petroleum Activity may result in localised impact with no lasting effects on the marine environment and cultural values. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts/risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 5	C 5.1	PS 5.1	MC 5.1.1

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
No injury or mortality to EPBC Act listed marine fauna as a result of noise generated by the Petroleum Activity.	Implement EPBC Regulations 2000 Part 8 Division 8.1 Interacting with Cetaceans, which includes the following: • vessels will not travel greater than 6 knots within 300 m of a cetacean (caution zone). • vessels will not approach closer than 50 m for a dolphin and/or 100 m for a whale (with the exception of animals bow riding). • if the cetacean shows signs of being disturbed, support vessels will immediately withdraw from the caution zone at a constant speed of less than 6 knots.	Vessels will comply with EPBC Regulations 2000 Part 8 Division 8.1 Interacting with Cetaceans.	Records demonstrate no breaches of the EPBC Regulations 2000 Part 8 Division 8.1 Interacting with Cetaceans.
	C 5.2 Vessels will comply with the Biodiversity Conservation Regulations (WA) 2018 for whale shark speed control and separation distances: Vessels will not travel greater than 6 knots within 250 m of a whale shark and not allow the vessel to approach closer than 30 m of a whale shark.	PS 5.2 When within 250 m of a whale shark, vessels do not travel faster than 6 knots nor approach within 30 m.	MC 5.2.1 Incident reports are raised for breaching speed or distance requirements in relation to whale sharks.
EPO 2 Woodside will actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural values and heritage.	C 2.1 Refer to Section 6.6.1	PS 2.1.1 Refer to Section 6.6.1	MC 2.1.1 Refer to Section 6.6.1
		PS 2.2.1 Refer to Section 6.6.1	MC 2.2.1 Refer to Section 6.6.1

6.6.4 Routine and non-routine discharges: subsea operations

Context		
Infrastructure layout – Section 3.5 Okha FPSO facility activities – Section 3.6 IMMR activities – Section 3.7 Vessels – Section 3.8	Physical environment – Section 4.4 Habitats and biological communities – Section 4.5 Protected species – Section 4.6	Stakeholder consultation – Section 5

Impact evaluation summary

Source of impact	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Subsea discharges during routine and non-routine operations of subsea infrastructure	X	X		X	X		A	E	-	-	LCS GP PJ	Broadly Acceptable	EPO 6
Subsea discharges during routine and non-routine IMMR activities	X	X		X	X			F					

Description of source of impact

Subsea discharges during routine and non-routine operations of subsea infrastructure

Hydrocarbons and chemicals may be discharged during routine and non-routine operation of the subsea infrastructure. This includes, but is not limited to:

- potential non-routine hydraulic fluid discharge associated with umbilical system losses/weeps
- discharge of minor fugitive hydrocarbon from wells and subsea infrastructure (e.g. weeps, seeps, bubbles)
- discharge of subsea control fluid – subsea control fluid is used to control valves remotely from the facility. HW525P is the current control fluid used on the Okha subsea infrastructure. The subsea control system is an open-loop system, designed to release control fluid from the control system during valve operations (typically <6 L is discharged to the marine environment with each valve actuation subject to actuator size).

Potential operational discharges and typical stored volumes are described in Section 3.6.12 and 3.7.5.

Note: Any subsea chemicals that are flushed to the Okha FPSO facility and discharged via the produced water system are assessed in Section 6.6.5.

Subsea discharges during routine and non-routine IMMR activities

Hydrocarbons and chemicals may be discharged during routine and non-routine IMMR activities. These include, but are not limited to:

- discharge of residual hydrocarbons in subsea lines and equipment, and small gas releases associated with testing isolation and breaking containment
- discharge of residual chemicals in subsea equipment, or the use of chemicals. These chemicals are used and discharged intermittently in small volumes. Small quantities of chemicals may remain in the flushed infrastructure, which may be released to the environment after disconnection.

Potential IMMR chemicals and typical discharges are described in Section 3.7.5.

Impact assessment
Environmental value(s) potentially impacted

Physical environment

Water quality

During routine operations and IMMR activities, chemicals are planned to be discharged to the marine environment. These are typically discharged at or near the seabed at low quantities. Once released into the receiving environment within the Operational Area, fluids are expected to mix rapidly and dilute in the water column. The largest and most frequent of these planned discharges is subsea control fluids, which are discharged in relatively small volumes during valve operations (typically <6 L per valve actuation). The current subsea control fluid is HW525P, which has an Offshore Chemical Notification Scheme (OCNS) class of A. However, around 99% of the components that make up the product have an OCNS rating of E, do not bioaccumulate and are biodegradable. The remaining 1% of constituents have an Osborne-Adams score of T1>>T2, meaning the water column refreshes faster (T2) than the time it would take for the constituents to exceed the no-effect concentration (NOEC) (T1). Therefore, the NOEC is not expected to be exceeded from subsea releases. HW525P also contains a dye, a critical characteristic that allows detection and response to unplanned releases of HW525P (unplanned releases are assessed further in Section 6.7.14).

During routine operations and IMMR activities, hydrocarbons (reservoir oil and/or gas) may be released during activities that break containment of isolated subsea infrastructure. Before breaking containment, subsea infrastructure is flushed to remove most of the hydrocarbons present in the infrastructure. Any discharges would be small with low levels of residual hydrocarbons. These small volumes of hydrocarbons are buoyant and will float towards the surface. However, given the water depth, pressure, and the small volumes, these hydrocarbons are not expected to reach the sea surface. Rather, releases will disperse and dissolve within the water column.

Chemicals introduced into the subsea infrastructure during IMMR activities may be discharged intermittently and in small volumes. Any chemicals used during routine and non-routine operations and IMMR activities are selected based on the Woodside chemical selection procedure (Section 7.2.3), to ensure any releases to the marine environment are ALARP. These discharges have potential for slight, localised decrease in water quality at planned discharge locations and potential impacts on marine biota.

Sediment quality

Accumulation of contaminants in sediments depends primarily on the volume and concentration of particulates in discharges or constituents that adsorb onto seawater particulates, the area over which those particulates could settle onto the seabed (dominated by current speeds and water depths), and the resuspension, bioturbation and microbial decay of those particulates in the water column and on the seabed. Subsea discharges of chemicals, hydrocarbons and subsea control fluids are likely to be in such small volumes that there is unlikely to be any indirect impacts to sediment quality.

The most regular discharge is expected to be from valve actuations, which are frequent but low volume (typically <6 L). As described above, this fluid is currently HW525P, of which around 99% of the components pose little or no risk to the environment. In the remaining 1% of HW525P, one component is classed as non-biodegradable, which means there is potential for it to partition in the sediment compartment. This component comprises around 0.3% of the total volume of HW525P and is not expected to bioaccumulate.

Overall, any impacts to sediments from routine operations and IMMR discharges are expected to be localised with no lasting impact.

Habitats and biological communities

Sediments in the Operational Area are expected to be broadly consistent with those in the NWS Province, with filter feeders such as sponges, ascidians, soft corals and gorgonians associated with areas of hard substrate. The only areas of hard substrate expected in the vicinity of the Petroleum Activity are artificial habitat associated with subsea infrastructure. Impacts to ecosystems are not expected due to the localised nature of discharge plumes and potential for sediment quality impacts.

Given the nature and scale of discharges from routine operations and IMMR activities potential impacts are considered to be slight and low level.

Species

There is potential for other species to come into contact with subsea discharges if they are near the discharge point. However, given the small quantities of discharge and rapid dilution expected, impacts would be limited to pelagic species and planktonic organisms in the immediate vicinity of the discharge plume.

Any impacts to species are expected to be localised with no lasting impact.

KEFs

The Operational Area partially overlaps the Ancient Coastline at 125 m Depth Contour (note, the Okha FPSO facility is located 10 km to the south of this KEF). No significant escarpments, species of conservation significance, emergent features or areas of high biological productivity characteristically associated with the Ancient Coastline KEF have

been observed in the Operational Area. Therefore, potential impacts to this regional-scale KEF are expected to be negligible.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)24***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
None identified.				
Good practice				
Implement the Chemical Selection and Assessment Environment Guideline.	F: Yes. Woodside routinely implements a chemical selection process at Okha. CS: Minimal. Woodside routinely implements this control.	Full assessment of all chemicals used for operations and IMMR activities provides the opportunity for Woodside to understand the potential environmental impacts of a potential chemical or hydrocarbon release prior to discharge.	The Chemical Selection and Assessment Environment Guideline is routinely implemented at Woodside and the OCNS, which it is based on, is widely used and accepted throughout industry. The cost of implementation is outweighed by the potential environmental benefits.	C 6.1
Monitor routine subsea control fluid discharges in sediments.	F: Yes. CS: High costs.	Planned discharges associated with valve actuation impact are ranked as slight and low level based on the volume, frequency, location and type of fluid discharged in an open ocean environment. Most of HW525P (99%) comprises constituents with an OCNS ranking of E, are biodegradable and do not bioaccumulate. The low volume of constituents with substitution warnings is very small and unlikely to bioaccumulate. Only around 0.3% of the constituents are non-biodegradable with the potential to partition in the sediment compartment. However, given the small routine volumes of discharge, the concentration in sediments is not expected to be detectable.	Cost/sacrifice outweigh benefit.	No

24 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)24***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Where practicable, flush infrastructure before IMMR disconnection activities to reduce volume and concentration of hydrocarbons released to the environment.	F: Yes. CS: Minor. Standard practice.	Reduces the volumes and concentration of hydrocarbons release to the environment.	Benefit outweighs cost/sacrifice.	C 6.2
Monitor subsea control fluid use, investigate material discrepancies, and use subsea control fluid with dye marker to support identification of potential integrity failures. Where fluid losses are unexplained relative to expected usage trends (dependent on operational demand for system activation), potential integrity issues are investigated.	F: Yes. The use of subsea control fluid is monitored to maintain adequate fluid in the system. CS: Minimal cost.	Limits the volumes of subsea control fluid discharged to the marine environment.	Benefit outweighs cost/sacrifice.	C 6.3
Monitor and track subsea fugitive hydrocarbon emissions to support identification of potential integrity failures in accordance with the Subsea and Pipelines Integrity Management Procedure.	F: Yes. CS: Minimal cost. Standard practice	Tracks and manages fugitive hydrocarbons discharged to the marine environment and supports integrity management assessments.	Benefits outweigh cost/sacrifice. The subsea anomaly and its scale is noted in the anomaly/inspection report and recorded in the Company's centralised subsea Inspection Database. The anomaly is then assessed to determine integrity risks, future monitoring, and/or corrective actions.	C 6.4
Professional judgement – eliminate				
Install a closed-loop subsea control system.	F: No. The type of subsea control system (i.e. open or closed loop) selected is typically considered within the design phase of a project and retrospective conversation is not considered technically feasible. A new closed-loop system could be installed,	Not considered, control not feasible.	Not considered, control not feasible.	No

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)24***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
	but the systems usually require mineral hydraulic oils, which are more harmful in a leak scenario. CS: Not considered, control not feasible.			
Professional judgement – substitute				
Change-out of subsea control fluid (HW525P) to an alternative subsea control fluid	F: Yes CS: There are few viable alternatives to HW525P that offer superior OCNS rankings without introducing other significant risks. In a 2020 assessment, alternative fluids were either found to pose a threat to valve integrity or lacked sufficient testing on aging infrastructure, such as the Okha subsea system. The potential operational consequences of valve damage are substantial, including the need for unplanned maintenance campaigns and possible production shutdowns of affected wells. A further assessment in 2025, which included newer fluids such as ECF, reaffirmed HW525P as the preferred subsea control fluid. The associated risks were determined to be ALARP, considering technical compatibility, environmental impact, and operational reliability.	While replacing HW525P could offer a potential reduction in environmental impact associated with intermittent discharges, alternative fluids have either been proven incompatible with the Okha subsea infrastructure or remain untested on infrastructure of comparable age. Such uncertainty increases the risk of unplanned releases to the marine environment and could also lead to indirect environmental impacts associated with mobilising unplanned repair campaigns. No further review and ALARP assessment of alternatives is considered necessary until EOFL (2031) given: 1) Comprehensive assessment has been conducted in 2025. 2) With a finite and diminishing production horizon, the cost and complexity of transitioning to a new control fluid is disproportionate to the residual risks' reduction potential. Any such effort would provide minimal, if any, benefit before decommissioning.	There are no significant environmental benefits associated with the limited alternatives known to be compatible with the Okha subsea infrastructure. For alternatives that are either incompatible or unproven on infrastructure of this age, the potential environmental benefits are outweighed by the high risk of system failure and the associated costs of unplanned interventions.	No
Professional judgement – engineered solution				
None identified.				
ALARP statement: Based on the assessment outcomes, the application of the appropriate decision-making tools (i.e. Decision Type A, as outlined in Section 2.2.4.2), and in alignment with Woodside's criteria for demonstrating ALARP (Section 2.4.1), the adopted controls are considered suitable for managing the potential impacts and risks associated with planned subsea discharges from operations and IMMR activities. As no additional or alternative controls were identified that				

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)24***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
would further reduce these impacts without incurring disproportionate cost or effort, the associated impacts and risks are deemed to be ALARP.				

Demonstration of acceptability
Acceptability statement:
The impact assessment has concluded that, with the implementation of the identified controls, any subsea discharge of routine and non-routine chemicals or hydrocarbons during operations and IMMR activities is expected to result in only slight, low-level impacts. Based on these assessment outcomes, and using the appropriate tools aligned with the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for determining acceptability (Section 2.4.2), Woodside considers the adopted controls to be appropriate for managing impacts to a level considered broadly acceptable. Compliance with these controls demonstrates that the Environmental Performance Outcomes (EPOs) are being met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 6 Impacts from routine and non-routine discharges from subsea operations and activities will be limited to planned activities and impacts described as part of the Petroleum Activity.	C 6.1 Implement the Chemical Selection and Assessment Environment Guideline.	PS 6.1 All chemicals intended or likely to be discharged to the marine environment are assessed and approved before use in accordance with the Chemical Selection and Assessment Environment Guideline to ensure the impacts associated with use are ALARP and acceptable.	MC 6.1.1 Records demonstrate the chemical selection, assessment and approval process for operational chemicals is followed.
	C 6.2 Where practicable, flush infrastructure before IMMR disconnection activities to reduce volume and concentration of hydrocarbons released to the environment.	PS 6.2 Before IMMR disconnection, subsea infrastructure containing hydrocarbons are flushed to the Okha FPSO facility (where practicable) to a hydrocarbon concentration where further dilution provides disproportionate cost to environmental benefit.	MC 6.2.1 Records demonstrate subsea infrastructure flushing (to Okha FPSO facility) where practicable.
	C 6.3 Monitor subsea control fluid use, investigate material discrepancies, and use subsea control fluid with dye marker to support identification of potential integrity failures. Where fluid losses are unexplained relative to expected usage trends	C 6.3 Subsea control fluid use is monitored and, where losses are unexplained, relative to expected usage trends (dependent on operational demand for system activation), potential integrity issues are investigated.	MC 6.3.1 Records demonstrate subsea control fluid use is documented, and unexplained discrepancies investigated.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	(dependent on operational demand for system activation), potential integrity issues are investigated.		
	C 6.4 Monitor, track and assess subsea fugitive hydrocarbon emissions to support identification of potential integrity failures in accordance with the Subsea and Pipelines Integrity Management Procedure.	PS 6.4 Subsea fugitive hydrocarbon emissions are monitored, tracked and assessed to determine future monitoring and/or corrective actions.	MC 6.4.1 Subsea fugitive emissions anomalies are noted in the anomaly/inspection report and recorded in the Company's centralised Inspection Database.

6.6.5 Routine and non-routine discharges: produced water

Context		
Produced Water System – Section 3.6.3	Physical Environment – Section 4.4 Habitats and biological communities – Section 4.5 Protected Species – Section 4.6	Stakeholder Consultation – Section 5

Impacts Evaluation Summary

Source of Impact	***Environmental Value Potentially Impacted***						***Evaluation***						
	Marine Sediment	Water Quality	Air Quality (incl Odour)	Ecosystems/Habitat	Species	Socioeconomic	Decision Type	Consequence/Impact	Likelihood	Risk Rating	ALARP Tools	Acceptability	Outcome
Discharge of PW from FPSO.	X	X	-	X	X	-	B	E	-	-	LCS GP PJ RBA CV SV	Broadly Acceptable	EPO 7

Description of Source of Impact

Produced water (PW) is formation water (derived from a water reservoir below the hydrocarbon formation) or condensed water (water vapour present within gas/condensate that condenses when brought to the surface), or a combination of both. Separation of formation water from reservoir fluids is not 100% effective and separated formation water often contains small amounts of naturally occurring contaminants including dispersed oil, dissolved organic compounds (aliphatic and aromatic hydrocarbons, organic acids and phenols), inorganic compounds (e.g. soluble inorganic chemicals, dissolved metals) and residual process chemicals. A description of the PW system onboard the Okha FPSO facility is provided in Section 3.6.3.

In 2024, ~8,182 m^3/day of PW was discharged from the Okha FPSO facility and discharge rates may continue to increase as reservoirs age. The maximum daily discharge is 18,000 m^3/day (integrity limit); however, based on historical discharge rates actual discharge rates are expected to be lower.

Monitoring and Management Framework

This section describes the monitoring and management framework that Woodside has developed to support the monitoring of PW discharges from offshore assets. The monitoring and management framework comprises of:

- operational monitoring of OIW
- produced water routine monitoring.

Further details are provided in Section 7.2.3, which describes Woodside's Offshore Marine Discharge Adaptive Management Plan (OMDAMP). The monitoring and management of produced water will be implemented in accordance with the OMDAMP which details guidelines (ANZG, 2018) for water and sediment quality monitoring including chemical assessments (metals, benzene, toluene, ethylbenzene and xylene (BTEX), PAH, phenols, organic acids, TPH and total recoverable hydrocarbon (TRH), and ecotoxicity testing.

Oil in water – operational monitoring

OIW monitoring is undertaken via an online analyser. When an elevated OIW concentration is detected, PW is automatically diverted to the PW tank and, if required, the slops tanks. PW discharged from the slops tank is monitored by an additional OIW analyser. If both online OIW analysers are unavailable, manual sampling is undertaken. Online analyser information is sent via transmitter to the distributed control system (DCS) and is also captured within the process database. The DCS facilitates visibility in the control room, for manual or automated process control changes to be made, and/or initiate alarms (e.g. high OIW specification). The process database

information is available onshore for analysis and trending. The results of manual sampling (while the online analyser is not available) are stored in a spreadsheet contained on the Okha server.

Routine Monitoring

The routine monitoring is also implemented in accordance with the OMDAMP (Section 7.2.3), which details routine monitoring assessment against guideline values (ANZG 2018), analytical methods, and actions when a trigger value is exceeded which effectively reduce impacts and risks to ALARP and acceptable levels.

The guideline values are applied through a risk-based approach that is intended to capture uncertainty around the level of impact, by staging monitoring and management responses according to the degree of risk based on multiple lines of evidence. Routine monitoring applicable to the facility, to compare against trigger values, is described in Table 6-9. Changes in water quality can be detected early and can indicate the potential for an impact to sediments or biota prior to an impact occurring. Whole effluent testing (WET) testing confirms if there is a potential for impact on biota.

Annual sampling of the produced water at the 'end of pipe' is completed for chemical characterisation and three yearly sampling for WET testing to assess ecotoxicity of the discharge.

PW samples should represent normal operations and be undertaken during periods of normal production at the facility. Where practicable, samples are taken at a time when all (or as many as reasonably possible) PW-producing wells are online. The WET tests are undertaken on a broad range of taxa of ecological relevance for which accepted standard test protocols are well-established. WET tests mainly focus on the early life stages of test organisms, when organisms are typically most sensitive to contaminants; the tests are designed to represent local trophic level receptors. For WET testing, a range of tropical and temperate Australian marine species were selected based on their ecological relevance, known sensitivity to contaminants, availability of robust test protocols, and known reproducibility and sensitivity as test species. Specific tests are listed in the OMDAMP; however, other tests can be exchanged over time if tests are not available, or become obsolete, however, preference would be for tests that mimic the receiving environment as closely as possible (i.e., for most facilities this would be tropical, marine water tests) and for at least eight mainly chronic tests (Warne et al., 2015). The dilutions required to protect 95% of species are calculated using the ANZECC/ARMCANZ (2000) statistical distribution methodology on the results of direct toxicity assessment using sub-lethal chronic endpoints. The protection of 99% of species maintains a high level of ecological protection at the boundary of the approved mixing zone.

Table 6-9: Trigger values used during routine monitoring

Parameter	Trigger Value Summary	Frequency
Chemical characterisation: end of pipe sample – physicochemical and toxicants	Results that are predicted to be higher than the 95%[1] DGV at the approved mixing zone boundary and are above the results from the earlier toxicity year[2] or above the toxicity year when no guideline was available.	Annual.
WET testing	The 95% species protection safe dilutions derived from earlier toxicity year are not predicted to be achieved at the boundary of approved mixing zone and are higher than previous years.	Every three years, conducted in parallel with annual chemical characterisation
Review of continuous operational monitoring results	Increases in the average monthly OIW concentration by 5 mg/L total over six consecutive months or by 10 mg/L for two consecutive months.	Monthly
Discharge volume	Monthly mean discharge volume (m^3/day) is equal to or less than modelled flow rate used to confirm the 95% species protection based on earlier toxicity year[2] can be met at the mixing zone boundary.	Monthly

Note:
1 In some instances, ANZG directs the use of the 99% species protection value for slightly to moderately disturbed systems
2 Earlier toxicity year means the year in which the most recent WET test occurred.

Exceedances of trigger values require further investigation, including multiple lines of evidence. If further investigations confirm the trigger value has been exceeded, a review of single species testing is conducted, plus additional WET testing if required. Monitoring is conducted in accordance with the OMDAMP and where appropriate routine monitoring triggers, methodologies and standards applied (e.g. requirements for WET testing) to ensure consistency and comparability of data.

Approved mixing zone

The approved mixing zone boundary for the facility is 500 m. The approved mixing zone protects 95% of species, as calculated using the species sensitivity distribution statistical method on the results of whole effluent toxicity assessment. The protection of 95% of species guidelines have been adopted for a slightly to moderately disturbed

system at the approved mixing zone boundary given the discharge location and presence of an established offshore industry.

Impact Assessment

Potential impacts of PW discharge include:

- changes to water quality
- toxicity to biota
- changes to sediment quality.

The maximum discharge rate is 18,000 m^3/day. The average daily PW discharge rate is expected to be significantly less than the maximum rate as demonstrated historically. However, as the total volume of PW is expected to fluctuate as the field ages, the environmental impacts have been assessed against maximum expected discharge rates. To understand potential impacts from PW discharges, Woodside has undertaken a suite of comprehensive in situ testing and sampling related to PW discharges representing long-term operational periods from its offshore production facilities. The details of this testing and resultant understanding of potential environmental impacts are outlined below and in the OMDAMP.

Potential Impacts to Water Quality

Once processed through the produced water system PW is discharged from the FPSO either directly overboard below the water (Section 3.6.3) or via the slops tank at the surface. The plume initially plunges and then rises to the surface as positively buoyant plume in both scenarios. Potential impacts to water quality have been assessed through chemical characterisation of PW and potential discharge volumes.

Chemical Characterisation of PW (Physicochemical Parameters and Toxicants)

PW is known to rapidly dilute once discharged into the ocean, with individual constituent concentrations reducing to below respective guideline values within the approved mixing zone (SKM, 2006). Historical monitoring indicates the approved mixing zone has not been exceeded and provides high confidence that impacts from PW discharge are highly localised and pose negligible effects to environmental receptors. Samples of undiluted PW collected annually from the end of pipe between 2011 to 2024 were analysed for key physicochemical parameters and toxicants. In most cases, results are below guideline values, or similar to the results of chemical characterisation when the previous year's WET testing was undertaken (i.e. previous toxicity year), resulting in below guideline values within the approved mixing zone after taking into account modelled dilutions.

End of pipe PW analysis in 2024 confirmed chemical composition was similar to historical results for all physico-chemical parameters (Worley 2024). BTEX (benzene, toluene, ethylbenzene, and xylene compounds) PAH, metals and phenols were present at levels similar to previous years, with some above the ANZG (2018) guideline values. But, all constituents achieved 95% species protection guideline values within the approved mixing zone of 500 m, with only 71 dilutions being required to achieve the default guideline values (DGV) for any component. Modelling (Jacobs 2018) predicted 648 dilutions would be achieved within 500 m from the discharge point at the maximum discharge rate (18,000 m^3/day). Infield water quality survey data from 2014 (BMT Oceanica 2015) and 2021 (BMT 2021) supports the modelled outputs and impact assessment that the required dilutions are being achieved and the dispersion modelling is adequately conservative. In the water quality surveys surrounding the Okha FPSO facility, despite having moderate concentrations of some contaminants in the PW discharge measured at the end of pipe, concentrations of conservative (salinity) and non-conservative tracers (TRH, BTEX, ammonia and barium) were either below the limit of reporting (LoR) or indistinguishable from the background concentrations within 25 m of the Okha FPSO facility (BMT Oceanica 2015; BMT 2021). Hydrocarbon (TRHs, BTEX and PAHs) concentrations were below 99% species protection DGVs (BMT Oceanica 2015; BMT 2021). Concentrations of dissolved and total metals were below ANZG (2018) 99% species protection (DGVs) at sites, with the exception of copper and zinc.

Concentrations of dissolved copper (<0.3 µg/L) and zinc (<5 µg/L) were below LoRs in the PW measured at the 'end of pipe' (BMT Oceanica 2015; BMT 2021). Yet, concentrations of dissolved copper exceeded the ANZG (2018) 99% species protection DGVs at a number of sites including reference sites, while zinc exceeded at two sites. Dissolved copper in water samples that exceeded the ANZG (2018) DGV of 0.3 µg/L were also found in a previous study at the Okha FPSO facility (BMT Oceanica 2015) and at other facilities in the region.

PW may include low levels of NORM in particular, uranium 238 and thorium 232 decay chains and the longer-lived radionuclides lead 210, polonium 210, radium 226 (Ra-226) and radium 228 (Ra-228) (Coleman and West 2000). These radionuclides can occur in produced water either in solution or as fine mineral suspended solids.

During the 2019 chemical characterisation, the concentration of Ra-226, Ra-228, polonium 210 and lead 210 in end of pipe PW was assessed. Concentrations of Ra-226 and Ra-228 in PW from the Okha FPSO facility were at the lower end of the range of measured values in PWs from different global locations and were 2-3 orders of magnitude higher than background seawater concentrations (Jacobs 2019a, Neff et al., 2011). Currently, there are no ANZG (2018) guidelines or international guidance for concentrations of radionuclides in marine water, however, concentrations were similar to the drinking water guidelines (WHO, 2017). Lead 210 and polonium 210 were below the laboratory minimal detectable activity level.

Valeur and Petersen (2013) assessed the ecological hazard-related NORMs in PW discharged to the marine environment. They concluded that NORMs have a strong affinity for particulate matter and discharged NORMs would be adsorbed onto fine grained sediments and particulate matter relatively soon after introduction to the marine environment. In high energy environments, NORMs associated particles would settle and resuspend numerous times until they eventually settle in low energy environments in deep parts of the sea that serve as accumulation areas for fine grained sediments. Over time these particles would be buried beneath the benthic mixing layer of the seabed where they will become isolated from the biosphere and are unlikely to exceed background levels.

Given the low concentrations of radionuclides in PW from the Okha FPSO facility, its adsorption to fine grained sediments, no further investigation or analysis will be undertaken as the approved mixing zone is deemed appropriate. Potential toxicity risk would be accounted for during regular WET testing to determine PW toxicity.

Residual Process Chemicals

Residual process chemicals may be present in the PW stream. Process chemicals are subject to Woodside's chemical selection and approval process. Chemicals will decrease the water quality in the immediate area of the release (i.e., surface waters at the release location); however, the consequence is expected to be temporary and localised due to dilution with the PW stream and the open ocean mixing environment, distance from sensitive receptors and relatively low and or non-routine discharge volumes.

Impact

Potential impacts to water quality are expected to be limited to the immediate vicinity of the discharge location with a Negligible (F) effect on water quality. Within the approved mixing zone, potential impacts to pelagic fish are expected to be limited to avoidance of the localised area of the plume and short-term localised decline in planktonic organisms in the immediate vicinity of the discharge plume.

Potential Impacts to Biological Indicators

Most treated PW has low to moderate toxicity (Neff et al. 2011), with actual toxicity of discharge dependant on the chemical constituents of the formation water and any added process chemicals, the level of treatment and dilution with condensed water prior to release, and the dilution of the discharge as it mixes with sea water. Most hydrocarbons in PW are considered non-specific narcotic toxins with additive toxicities; therefore, the toxicity of a PW, in part, depends on the total concentration and range of bioavailable hydrocarbons (Neff 2002). Chemical characterisation and WET testing of the PW has been completed to establish actual toxicity and to verify the required dilutions are being achieved within the approved mixing zone.

WET Testing

WET testing is undertaken to allow for interactions between toxicants and consider toxicants that cannot readily be measured or are not known to be present in the sample. For the WET testing a range of tropical and temperate Australian marine species are selected based on their ecological relevance, known sensitivity to contaminants, availability of robust test protocols, and known reproducibility and sensitivity as test species (ANZG, 2018).

A total of eight toxicity tests are carried out on a range of tropical and temperate Australian marine species. These are selected based on their ecological relevance, known sensitivity to contaminants, availability of robust test protocols and known reproducibility and sensitivity as test species for assessing PW in marine environments. Upon completion of WET testing, the results are combined into safe dilution estimates for the protection of 99% and 95% species.

Routine WET testing was completed as required by the previous revisions of the EP as per Table 6-10, and is scheduled to next be undertaken in 2026. The number of dilutions required to achieve 95% species protection safe dilutions has remained relatively similar and well within the 648 dilutions predicted at maximum discharge rate (18,000 m^3/day).

Table 6-10: Calculated 99% and 95% species protection guideline concentrations and corresponding safe dilutions

Year	99% Guideline Concentration and (Safe Dilutions)	95% Guideline Concentration and (Safe Dilutions)
2006	0.31 (320)	0.43 (230)
2014	0.15 (670)	0.40 (250)
2017	0.29 (345)	0.36 (280)
2020	0.078 (1,282)	0.18 (556)
2023	0.64 (157)	0.91 (110)

Determination of Approved Mixing Zone

To determine the potential impact of the PW to the marine environment, modelling was conducted to predict the distance at which 95% species protection safe dilutions are achieved, using the most recent WET testing results

available at the time to reflect the current potential toxicity. A modelling study was carried out in 2018 and informs this impact assessment in relation to the determination of the approved mixing zone (Jacobs 2018).

Model simulations of dilutions were undertaken for three main seasons prevalent on the NWS, based on measured current and wind data. Ocean current data was collected at multiple depths through the water column. As the modelling of ocean current speed and direction varies substantially within each season, the full current records were analysed to select periods typical of the three seasons on the NWS but erring on the side of low current speeds to give conservative model results (Jacobs 2016).

The results from the WET testing undertaken are used to develop predicted no effect concentration (PNEC) values that are inputs to the model. The four-day averaged PW concentrations provide estimates of the mean in situ exposure concentration. The four-day predicted effects concentration (PEC) value is used to determine the PEC/PNEC ratios and the distances from the discharge point at which 95% species protection safe dilutions (PC95) are achieved, based on the current discharge rate and maximum discharge rate (18,000 m^3/day). The modelling shows a surface-buoyant plume that is readily diluted to 95% species protection safe dilution within 500 m of the discharge location under worst-case conditions at actual and maximum discharge rates. Therefore, it is proposed to maintain a 500 m approved mixing zone to reflect 99% species protection safe dilutions at the maximum expected discharge 18,000 m^3/day. WET testing has also been completed in 2020 and 2023, and confirmed that the required dilutions, based on the discharge volume are being achieved at the mixing zone boundary.

Impacts to AMPs, KEFs and BIAs

The Okha FPSO is moored approximatley 10 km from the nearest KEF (the Ancient Coastline at 125 m Depth Contour) and 92 km from the Montebello AMP. Glomar Shoal is approximatley 12 km away from the mixing zone, further than the Ancient Coastline KEF. Given PW forms a buoyant plume and the distance from the discharge source, no impacts to the Marine Park or KEF are anticipated. Routine monitoring (end of pipe chemical characterisation and WET testing) detects changes at the approved mixing zone boundary. If trigger values are predicted to be exceeded at this distance further investigation is required as described above. This may include reviewing single species toxicity test results, additional WET testing or in situ monitoring. If trigger values are not exceeded, there can be high confidence that maximum ecological protection is achieved by the Montebello AMP.

The approved mixing zone is within the foraging BIA for whale sharks; however, given the localised area of impact and that whale sharks are transiting the area, no impacts are expected.

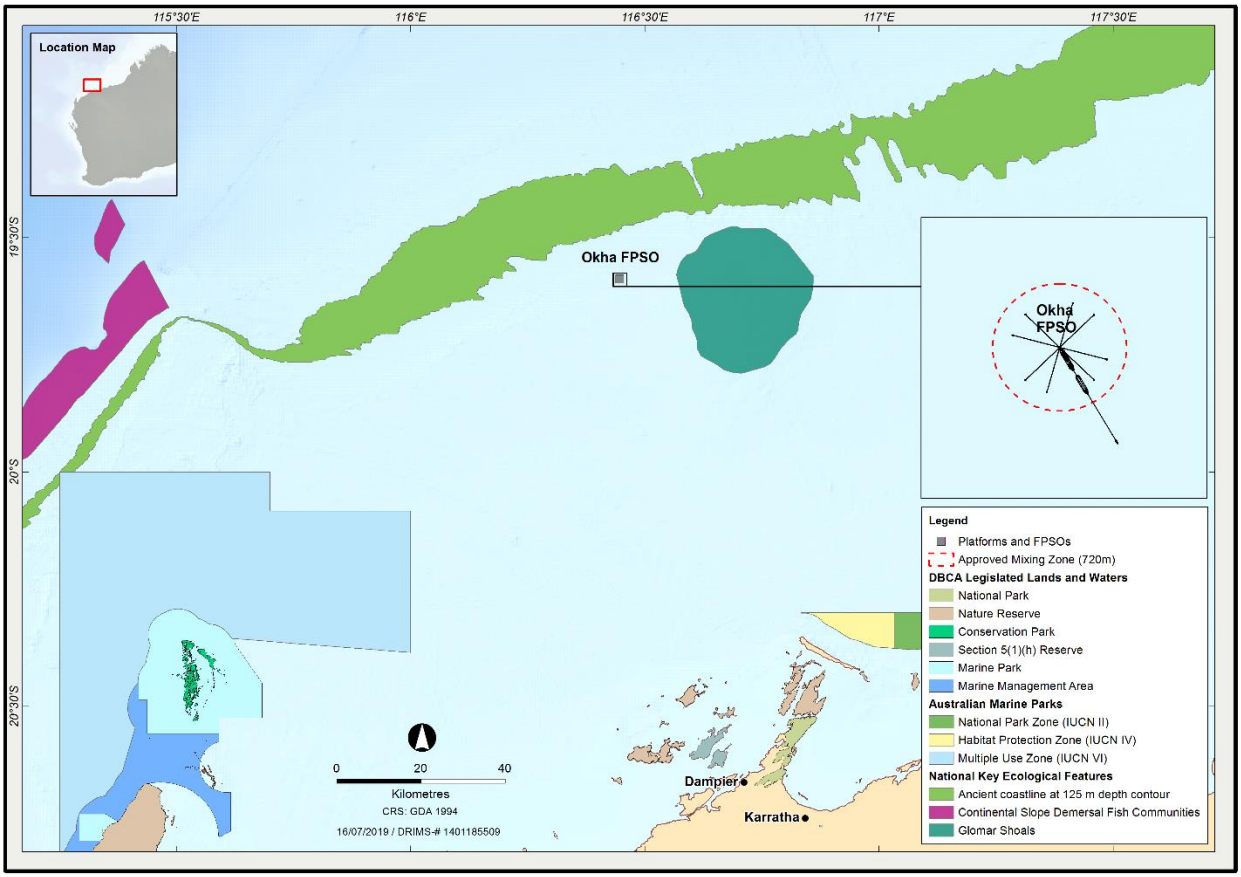


Figure 6-1: Produced water approved mixing zone relative to Australian marine parks and key ecological features

Bioaccumulation

Bioaccumulation refers to the amount of a substance taken up by an organism through all routes of exposure (water, diet, inhalation, epidermal). The bioaccumulation factor is the ratio of the steady-state tissue concentration and the steady-state environmental concentration (assuming uptake is from food and water). The test developed to measure the ability of a substance to bioaccumulate, namely, the octanol-water partition (Pow), is based on the preferential partitioning of lipophilic organic compounds into the octanol phase. Partitioning into octanol can be correlated with the attraction for such compounds to the fatty tissue (lipid) of organisms.

The average concentration of BTEX in PW discharged from the facility is ~6 mg/L (Jacobs 2018). Bioaccumulation of BTEX compounds has been observed to occur in the laboratory, but only at concentrations far in excess of that discharged from the Okha FPSO facility (e.g. refer to Berry 1980); hence, it is unlikely BTEX would bioaccumulate at the exposure concentrations that may be experienced by biota around the FPSO.

In contrast to BTEX compounds, PAH compounds have high log pow (octanol/water partition coefficient) values indicative of the potential for bioaccumulation (Vik et al. 1996). Neff and Sauer (1996) reviewed the available literature for laboratory and field studies investigating the bioaccumulation of PAHs. The bioaccumulation values for PAHs in marine organisms collected near PW discharges in the Gulf of Mexico, reported by Neff and Saur (1996), indicate that the highest bioaccumulation factor was in the tissues of bivalve molluscs and the lowest in the muscle tissue of fish. Concentrations of petroleum hydrocarbons (TRH, BTEX and phenols) in the receiving waters and sediments surrounding the Okha FPSO were all below their laboratory LoRs during a field survey in 2021 (BMT 2021).

The most comprehensive field study assessing bioaccumulation of hydrocarbons and metals from PW discharged into offshore waters is that by Neff et al. (2011). At the request of the U.S. Environmental Protection Agency (USEPA), the Gulf of Mexico Offshore Operators Committee sponsored a study of bioconcentration of selected PW chemicals by marine invertebrates and fish around several offshore production facilities, discharging more than 731 m^3 per day of PW to outer continental shelf waters of the western Gulf of Mexico. The target chemicals identified by USEPA included five metals (As, Cd, Hg, 226Ra and 228Ra); three volatile monocyclic aromatic hydrocarbons (MAH), benzene, toluene, and ethylbenzene; and four semi-volatile organic chemicals, phenol, fluorene, benzo(a)pyrene, and di (2-ethylhexyl) phthalate. Additional MAH (m-, p-, and o-xylenes) and a full suite of 40 parent and alkyl-PAH and dibenzothiophenes were also analysed by Neff et al. (2011) in PW, ambient water and tissues at some facilities.

Mercury in the marine environment exists mainly as complexes of mercury (II) and as organomercurials (Hart 1982). Of particular concern is inorganic forms of mercury (of relatively low toxicity and availability to bioconcentrate) that may be converted by bacteria in situ into organomercury complexes (particularly methylmercury), which are more toxic and tend to bioaccumulate. Neff et al (2011) attempted to measure bioaccumulation of four metals (arsenic, barium, cadmium, and mercury), by two species of bivalve molluscs from platform legs and five species of fish collected within 100 m of produced water discharging and non-discharging platforms in the Gulf of Mexico. The study found no difference in metal concentrations between impact and control sites. Potential impacts to biota from heavy metals would be localised to the immediate vicinity of the facility. Therefore, based on outcomes from studies (Neff et al 2011) and given the size of the mixing zone and the wide distribution of most species potential impacts would be limited to individuals and not impact on populations. Hg concentrations have been <0.1 µg/L (ANZG 2018 99% SPL) in all monitoring from 2016-2024 (Worley 2024).

Concentrations of monocyclic aromatic hydrocarbons (MAH), PAH and phenol as determined by Neff et al. (2011) were orders of magnitude higher in PW than in ambient seawater. There was no evidence of MAH or phenol being bioconcentrated. All MAH and phenol were either not detected (>95% of tissue samples) or were present at trace concentrations in all invertebrate and fish tissue samples. Concentrations of several petrogenic PAHs, including alkyl naphthalenes and alkyl dibenzothiophenes, were slighter, but significantly higher in some bivalve molluscs but not fish, from discharging than from non-discharging facilities. These PAH could have been derived from PW discharges or from tar balls or small fuel spills. Concentrations of individual and total PAH in mollusc, crab and fish tissues were well below concentrations that might be harmful to the marine animals or to humans who might collect them for food at offshore facilities (Neff et. al. 2011). Therefore, bioaccumulation is unlikely to result in increased levels of BTEX in biota surrounding Okha. And although there may be PAHs present in low concentrations in the PW discharge, these have not been detected in the water or sediment quality surveys (BMT 2021). The results from Neff et al. (2011) can be used to infer the very low potential for adverse bioaccumulation effects to marine organisms, or to humans, if they were to consume any affected fish, molluscs or crabs found on upper near-surface legs of the facility.

The potential environmental impact associated with bioaccumulation of PW constituents in the water column and in the sediments, is considered to be very low, and limited to a potential localised effect on a small number of non-threatened species in waters immediately surrounding the facility, as described below. Potential health risks are unlikely as a result of negligible exposure: the PSZ prohibits fishing from or near the facility as there is very little or no activity within the Operational Area. The findings of the Routine Sediment Sampling and Water Quality Monitoring field studies completed in 2014 and 2021 at the Okha FPSO facility (BMT Oceanica 2015; BMT 2021) validated the conclusion that states, 'the potential environmental impact associated with bioaccumulation of PW constituents in the water column and in the sediments, is considered to be very low and limited to a potential localised effect on a small number of non-threated species in waters immediately surrounding each facility'. Given the nature of the PW

discharge from the Okha FPSO facility, the potential for bioaccumulation of PW contaminants (in particular BTEX) is considered to be highly localised with no lasting effect.

Marine Fauna

Given that PW will be managed to achieve 95% species protection at the approved mixing zone boundary potential for impacts to marine fauna are limited to a localised area in proximity to the facility (within 500 m). In addition, toxicants are expected to rapidly dilute and are not considered to cause acute toxicity. Therefore, impacts would be limited to fish communities associated with the facility exposed to water quality changes. While transiting cetaceans, whale sharks or turtles may pass through the plume they are not anticipated to spend long durations within the mixing zone and no impacts are expected.

Plankton

A change in water quality as a result of PW and cooling water discharges has the potential to result in the injury or death of planktonic species within the water column through toxicity effects. Early life stages of fish (embryos, larvae) and other plankton would be the most susceptible organisms to exposure from hydrocarbons and chemicals in the discharges, as they have limited mobility and are therefore likely to be exposed to the plume, if present. Impacts are predicted to be limited to within 500 m of the discharge location and impacts are expected to be slight. These types of organisms are known to have high levels of natural mortality and a rapid replacement rate. Plankton is generally abundant in the upper layers of the water column and is the basis of the marine food web, so localised impacts in any one location are unlikely to have long-lasting impacts on plankton populations at a regional level. Reproduction by survivors or migration from unaffected areas is likely to rapidly replenish losses (Volkman et al., 2004).

Potential Impacts to Sediment Quality

Potential impacts to sediment quality are assessed through sediment surveys and supported by the results of flocculation and precipitation studies, produced water chemical characterisation and potential for impacts to water quality.

Toxicants in sediments

Accumulation of PW contaminants in sediments depends primarily on the volume/concentration of particulates in PW discharges or constituents that adsorb onto seawater particulates, the area over which those particulates could settle onto the seabed (dominated by current speeds and water depths), and the resuspension, bioturbation and microbial decay of those particulates in the water column and on the seabed. As described above, the potential for PW to impact sediment, based on chemical characterisation of produced water and the infield water quality survey results, is unlikely due to the concentrations observed.

The plume is buoyant, due to lower salinity and/or higher temperature than surrounding sea water. Therefore, potential contaminants in the PW discharge may be introduced into sediments around the Okha FPSO facility through precipitation of soluble contaminants and flocculation and sedimentation of the particles in the PW plume. Studies into potential sediment accumulation from PW discharge have been undertaken by Woodside, including analysis of a sample of PW from the facility (Jacobs 2016). The study found that the PW at Okha has very small amounts of solid material, with very little potential of settling out due to small particle sizes (100% particles <40 µm), and that it is unlikely to flocculate (BMT 2020).

Dr Graeme Hubbert categorised particulate behaviour based on oceanographic experience and mathematical calculations using settling rates and resuspension velocities for various particle sizes. He determined that particles of a size 1 to 5 µm would never permanently settle out of the water column, and that particles from 5 to 40 µm would not permanently settle out of the water column, unless they were in very deep water (>5000 m) or in areas where hydrodynamic conditions were very weak and did not continuously resuspend the particles (SKM 2013). All the particles in Okha PW were smaller than 40 µm (Jacobs 2016; BMT 2020), and therefore have little chance of settling within the dynamic open ocean environment surrounding the facility. These calculations based on sediment settling rates, the low concentration of contaminants measured in produced water and results from in field water quality surveys have shown the discharge of produced water at this facility is not having an effect on sediment quality. This is supported by the results from sediment surveys during 2014 and 2021.

In 2014, sediment sampling was conducted at Okha to assess for impacts to sediment quality from PW discharges (BMT Oceanica 2015). The Australian and New Zealand Environment and Conservation Council (ANZECC) / Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) (2000a) Australian interim sediment quality guideline -Low and -High values for metals, PAH, TRH, BTEX and phenols were met in all samples at all sites around the Okha FPSO facility. Non-routine sediment sampling occurred in 2021 to ascertain if impacts to sediment quality have occurred (BMT 2021). Concentrations of BTEX, TRH, PAHs, and phenols in all sediment samples were below their laboratory LoR suggesting that there has been no accumulation of hydrocarbons in these sediments. Concentrations of metals in sediment samples all met their relevant ANZG (2018) DGVs, indicating a high level of ecological protection is achieved within the approved 500 m mixing zone boundary (BMT 2021).

Demonstration of ALARP				
Control Considered	***Control Feasibility (F) and Cost/Sacrifice (CS)[25]***	***Benefit in Impact Reduction***	***Proportionality***	***Control Adopted***
Legislation, Codes and Standards				
None identified.				
Good Practice				
Implement the Chemical Selection and Assessment Environment Guideline: • Where Gold, Silver, E or D OCNS rating substitution or product warning), chemicals are selected – no further control required. • If chemicals with a different OCNS rating, sub warning or non-OCNS rated chemicals are required, chemicals will be assessed in accordance with the guideline prior to use.	F: Yes. Woodside routinely implements a chemical selection process at Okha. CS: Minimal. Woodside routinely implements this control.	Environmental assessment of chemicals in discharges is expected to reduce the consequence of impacts resulting from discharges to the marine environment by assessing chemicals for environmental acceptability. Planned discharges are required for the safe execution of activities and therefore no reduction in likelihood can occur.	Woodside's chemical selection process is used to ensure fluids discharged meet Woodside's chemical environmental risk assessment standards while still providing the required technical capability.	C 6.1
Monitor and manage OIW concentrations in accordance with former Paris Convention 1997/16 (PARCOM) Annex 3 methodology: • Limiting average PW OIW to less than 30 mg/L (over a rolling 24-hour period).	F: Yes. CS: Monitoring and implementation costs. Standard practice. The 30 mg/L limit proposed is a legacy of the former OPGGS Environment Regulations 29 and 29A repealed in 2014. Reduction of this limit is not considered feasible or practicable. The current limit is effective in managing risk of PW discharge.	Limiting OIW concentrations within PW reduces impacts to the environment.	The adoption of a limit ensures PW OIW is controlled.	C 7.1.
Inboard off-specification PW to maintain OIW concentrations below 30 mg/L.	F: Yes CS: Monitoring and implementation costs. Standard practice.	Inboarding of PW is a contingency measure to ensure that rolling 24-hour period limits are not exceeded, even if a temporary spike in OIW concentration occurs.	If the facility exceeds 30 mg/L for a short period, which places the rolling 24-hour period limit at risk, the facility is able to inboard PW for further separation in the PW tank and/or slops	C 7.2

25 Qualitative measure

Demonstration of ALARP				
Control Considered	***Control Feasibility (F) and Cost/Sacrifice (CS)[25]***	***Benefit in Impact Reduction***	***Proportionality***	***Control Adopted***
			tank, to ensure a breach of the OIW limit does not occur. This control achieves the same performance standard as the monitoring of OIW concentrations control.	
Implement the Monitoring and Management Framework for PW discharges including: • Monitoring of PW discharge volume • Chemical characterisation annual sampling (including BTEX, PAH's, Organic Acids, metals)) • WET testing triennial sampling to be representative aiming to detect change.	F: Yes. CS: Monitoring costs. Standard practice.	The OMDAMP provides for detection of significant changes to the PW discharge characteristics (i.e., volumes, OIW concentration, chemical characterisation) that may cause an increased impact or risk to the marine environment. Monitoring is designed to detect if 95% species protection is achieved at the approved mixing zone boundary. Through the implementation of the OMDAMP, potential risks to the environment are reduced.	Woodside has been operating a number of offshore facilities (including the Okha FPSO facility) for a considerable period and has developed the OMDAMP based on operational experience. The OMDAMP considers risk-based adaptive management measures.	C 7.3
Online monitoring and/or procedural controls in place to monitor and control PW OIW concentrations and prevent discharge of PW with high OIW concentrations. Process performance monitored by OIW analyser. Conduct manual sampling on a 6-hourly basis if online analyser is unavailable, where safe and practicable to do so.	F: Yes. CS: Minimal cost. Standard practice.	The OIW analyser provides optimal process control and safeguarding to monitor, control and prevent discharge of PW with high OIW concentration to the environment. High OIW PW is inboarded for further separation then a second OIW analyser is installed to monitor, control and prevent discharge of PW with high OIW concentration to the environment after inboarding. Monitoring of OIW concentrations when online analyser unavailable when safe and practicable to do so.	Control is WMS requirement – must be adopted.	C 7.4

Demonstration of ALARP				
Control Considered	***Control Feasibility (F) and Cost/Sacrifice (CS)[25]***	***Benefit in Impact Reduction***	***Proportionality***	***Control Adopted***
The online analyser is calibrated with a manual sample in accordance with Offshore Laboratory Determination of Oil in Water Standard Operating Procedure	F: Yes CS: Monitoring and implementation costs. Standard practice.	Calibration of equipment to maintain quality control.	Calibrations undertaken at appropriate frequency to maintain quality control and in line with procedures.	C 7.5
Professional Judgement – Elimination				
Reinjection of PW into reservoirs.	F: Potentially feasible – some technical risk associated with reservoir uncertainty. CS: Significant. The reinjection of PW would require significant modification to the facility, including drilling injection wells. This would require considerable design and construction costs. Previous studies indicate a cost in excess of $20 million AUD capital expenditure (CAPEX) for PW reinjection, with an estimated operating expenditure (OPEX) cost of $1 million. Additionally, drilling rig activities associated with drilling an injection well introduce environment impacts (from cuttings discharges) and health and safety risks associated with the drilling campaign.	The environmental impacts in the approved mixing zone around the facility would be eliminated whilst reinjection is online. Long-term biological impacts from PW that are outside acceptable limits of change (i.e. impacts to ecosystems' integrity from contaminant accumulation in sediment and bioaccumulation effects over time) are prevented by the PW Monitoring and Management Framework. Currently, PW does not represent a sediment accumulation or resulting bioaccumulation risk (refer to potential impacts to sediment quality for more detail).	As part of the 2015 PW study into treatment, Woodside examined the potential for reinjection of PW at NWS facilities. Woodside has not identified a suitable reservoir, and such an option would likely require additional drilling activities to be undertaken. Reinjection is not feasible unless a suitable reservoir is identified. It is not feasible to reinject into a shut-in production well because the wells continue to have very high reservoir pressure, which would require significant facility modifications to overcome. Drilling and subsea work activities to establish a reliable PW reinjection well and subsea infrastructure also introduce significant complexity, risk and cost. Retrofitting PW topsides reinjection equipment to the FPSO introduces significant modifications, which pose safety risks on an operational facility. Together the significant retrofit risks, associated environmental impact (drilling and subsea construction) and introduced health and safety risks are considered significantly disproportionate to the potential slight	No

Demonstration of ALARP				
Control Considered	***Control Feasibility (F) and Cost/Sacrifice (CS)[25]***	***Benefit in Impact Reduction***	***Proportionality***	***Control Adopted***
			environmental impact improvement. As such, no further engineering design or screening studies reporting is considered reasonably practicable. For Type B impacts, it is appropriate to consider case-specific drivers to ALARP management. The lack of a suitable reservoir contrasts with Woodside's facilities that currently reinject PW. At a similar FPSO, for example, water reinjection is required to maintain reservoir pressure for production and was a key part of the Field Development Plan to optimise overall field recovery. As PW alone is not sufficient to maintain reservoir pressure, sea water is used to make up the balance. Therefore, given the significant economic benefits associated with reinjection at this FPSO the ALARP outcome is different to Okha. The reinjection of PW would also introduce additional sources of environmental risks and impacts, such as those associated with drilling injection wells (e.g. drilling cuttings) and maintaining injection capability (e.g. increased greenhouse gas emissions from power generation for pumps, increased chemical usage). Given the localised, slight, impact of PW discharges, and the considerable costs involved in developing a PW reinjection capability for the Okha, implementation risks	

Demonstration of ALARP				
Control Considered	***Control Feasibility (F) and Cost/Sacrifice (CS)[25]***	***Benefit in Impact Reduction***	***Proportionality***	***Control Adopted***
			and environmental impacts (greenhouse gas, chemical use), the costs are grossly disproportionate to the potential environmental benefit gained.	
Professional Judgement – Substitution				
None identified.				
Professional Judgement – Engineered Solution				
Chemical injection of water clarifier to reduce OIW concentration.	F: Potentially feasible. CS: Moderate. Initial cost of modifying production system to include chemical dosing point. Ongoing cost of chemical procurement.	C: Potential minor reduction in OIW concentration; however, does not reduce the overall consequence rating. Further, this results in additional chemical load, and lifecycle environmental footprint associated with packaging, logistics, waste management and potential process upsets.	The discharge of the clarifying agent with the PW stream may result in additional toxic effects. Ongoing chemical consumption would also incur OPEX. Given the nature and scale of impacts forming the current PW discharge, the cost of developing a chemical injection is disproportional to the environmental benefit.	No
Adopting a tertiary treatment stage to reduce OIW concentration.	F: Potentially feasible. Large deck space would be needed which is not currently available. CS: Significant cost. Deck reinforcement or cantilevers required, as well as high cost associated with these maintenance-intensive technologies. Previous studies for a similar NWS facility indicate a cost of $5–15 million CAPEX for tertiary treatment stage technology, with an estimated annual OPEX cost of $250,000–$750,000 AUD.	Potential minor reduction in OIW concentration; however, does not reduce the overall consequence rating. Further, there is very little deck space available at the Okha FPSO facility for additional treatment equipment.	Macro porous polymer extraction equipment is large and heavy, requiring deck reinforcement or cantilevers. It is also maintenance intensive. This introduces significant costs and additional risk from exposure of personnel. Additionally, these options tend to have high power consumption. The adoption of tertiary treatment is not currently considered ALARP because the additional costs and risks associated with this option are considered disproportionate to the OIW benefit.	No
Professional Judgement - Procedure and Administration				
Routine in situ monitoring beyond the	F: Yes. CS: Increasing the frequency of field-based	In situ monitoring following release is not an effective control to	Long-term monitoring of water and sediment characteristics at the	No

Demonstration of ALARP				
Control Considered	***Control Feasibility (F) and Cost/Sacrifice (CS)[25]***	***Benefit in Impact Reduction***	***Proportionality***	***Control Adopted***
requirements of Woodside's OMDAMP.	monitoring would result in additional offshore demand on resources, safety hazards and costs associated with an offshore environmental monitoring program, such as vessel activities, logistics, manual labour, analytical laboratory and service provider costs.	manage the nature of PW discharges and results no impact reduction. Increases to in situ monitoring beyond the adaptive management approach outlined in the OMDAMP does not follow good application of the hierarchy of controls and results in disproportionate sacrifice with regard to execution risks and costs for limited gain.	Woodside facilities indicate the PW discharge is not detectable beyond the approved mixing zone. No sediment contamination has been detected. PW separation process design, optimisation, monitoring and surveillance offer the primary controls, with discharge OIW analysis in place to detect performance variations. Further, Woodside maintains a routine OIW monitoring program for the PW stream (including adaptive management via the OMDAMP, which assesses the need for in situ monitoring). The work undertaken to date provides Woodside with a sound understanding of the nature and scale of the environmental impacts from PW discharge, which would not be further improved by increasing the frequency of in situ monitoring. The execution risks and cost of implementing this control is grossly disproportionate to the environmental benefit.	
On an annual basis review routine chemical characterisation monitoring results and determine if non routine sediment quality monitoring should be undertaken as per OMDAMP.	F: Yes CS: Monitoring and implementation costs. Standard practice.	Reviewing the monitoring results to determine if additional monitoring is required does not reduce environmental impact but does provide assurance impact is being appropriately defined.	Additional monitoring on risk-based basis is proportional to the additional cost of implementation and part of the OMDAMP	C 7.6
Risk Based Analysis				
Application of Woodside's risk management procedures and implementation of the OMDAMP provides for assessment of PW impacts, identification of changes to discharges, systematic assessment of risks and ongoing assessment/monitoring of discharge streams to reduce risk to ALARP, which includes: • ongoing hazard identification, risk assessment and the identification of control measures				

Demonstration of ALARP				
Control Considered	***Control Feasibility (F) and Cost/Sacrifice (CS)[25]***	***Benefit in Impact Reduction***	***Proportionality***	***Control Adopted***
• ongoing PW discharge monitoring.				
Company Values				
Corporate values require all personnel at Woodside to comply with appropriate policies, standards, procedures and processes while being accountable for their actions and holding others to account in line with Our Values. As detailed above, the Petroleum Activity will be undertaken in line with these policies, standards and procedures, which include suitable controls to manage PW discharge.				
Societal Values				
Due to the Petroleum Activity's proximity to sensitive receptors and potential uncertainty around PW discharges, the PW discharge consequence rating presents a Decision Type B in accordance with the decision support framework described in Section 2.4. Extensive consultation was undertaken for this program to identify the views and concerns of relevant stakeholders, as described in Section 5.				
ALARP Statement				
On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with planned discharges of PW. As no reasonably practicable alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of Acceptability
Acceptability Statement
To assess and determine the acceptable limits of impacts from PW discharges, Woodside has considered appropriate laws, policies, standards and conventions; principles of ESD; company values; and societal values.
Other Requirements (includes laws, polices, standards and conventions)
The adopted controls and acceptability assessment have considered regulatory guidance, in particular WA EPA (2016) Technical Guidance: Protecting the Quality of Western Australia's Marine Environment and the ANZ (2018) guidelines. Both sources of regulatory guidance provide that environmental values should be identified, and levels of ecological protection should then be set. To ensure ecosystem health is maintained overall, the cumulative size of the areas where lower levels of ecological protection apply should be proportionally small compared to the areas designated high and maximum. The ANZ (2018) guidelines similarly provide guidance that levels of protection should be identified, based on the environmental values to be protected. The Monitoring and Management Framework aligns to the levels of protection described by both WA EPA (2016) Technical Guidance and the ANZ (2018) guidelines through the acceptable limit of change. The level of ecological protection provided to sensitive receptors (located 10 and 92 km away) is consistent with the North-west Marine Parks Network Management Plan (2018). By monitoring and managing to the 95 species protection safe dilutions at 500 m, there can be high confidence that any potential for impacts can be detected and managed via the OMDAMP. The Minamata Convention 2013 (ratified by Australia in 2021) requires measures to be in place to control releases containing mercury or mercury compounds. Each of these measures, with information on how each measure is met for discharges of PW from the facility is provided below: • *Release limit values to control, and where feasible, reduce releases.* Guideline values related to mercury are in place and described above. • The use of best available techniques and best environmental practices to control releases. Monitoring via the annual chemical characterisation and OMDAMP provides adaptive management to ensure best environmental practices.. • *A multi pollutant control strategy for mercury releases.* The monitoring framework implemented includes full chemical characterisation and WET testing of discharge stream, which allows understanding of holistic toxicity of the effluent considering all contaminants and potential additive effects.
Principles of Ecologically Sustainable Development
Woodside has established a number of research projects in order to understand the marine environments in which facilities are operated, notably in the Exmouth Region and the Kimberley Region, including Rankin Bank, Glomar Shoal, Enfield Canyon and Scott Reef. Where scientific data does not exist, Woodside assumes a pristine natural

environment exists and therefore implements all practicable steps to prevent damage. Woodside's corporate values require consideration of the environment and communities when making decisions.

These principles of ESD were considered for this aspect:

- Integration Principle
  - the existing environment (Section 4) has been described consistent with the definition within regulation 5 of the Environment Regulations (i.e. includes ecological, socioeconomic, and cultural features), and any relevant values and sensitivities have been included within this impact analysis; therefore, the impact assessment process inherently includes economic, environmental and social considerations.
  - Feedback, objections and claims from Relevant Persons were considered, see Appendix F
- Precautionary Principle:
  - the impact consequence rating for this aspect is slight, therefore, potential for serious or irreversible environmental damage is not expected.
  - although serious or irreversible environmental damage is not predicted to occur, there is some scientific uncertainty associated with the produced water composition however it is not expected to change the consequence level and PW will be monitored and managed as per the adopted control measures.
- Intergenerational Principle
  - the acceptable levels were developed consistent with the principles of ESD, including that the environmental impacts and risks of the offshore project will not forego the health, diversity, or productivity of the environment for future generations.
  - as described above, the predicted environmental impact spatially limited to an area around the facility, which is not considered as having the potential to affect ecological integrity. By maintaining ecological integrity the discharge of PW is not considered to have the potential affect intergenerational equity
- Biodiversity Principle
  - the existing environment identifies and describes relevant MNES, as defined in regulation 7(3) of the Environment Regulations; any relevant values and sensitivities are included within this impact analysis.
  - as described above, the predicted environmental impact are spatially limited to an area around the facility, which is not considered as having the potential to affect ecological integrity. By maintaining ecological integrity the discharge of PW is not considered to have the potential affect biological diversity.
  - Woodside looks after the communities and environments in which it operates. Risks are inherent in petroleum activities; however, through sound management, systematic application of policies, standards, procedures and processes, Woodside considers potential impact is slight, short term and discharge of PW is acceptable.

Woodside looks after the communities and environments where we operate. Risks are inherent in petroleum activities; however, through sound management, systematic application of policies, standards, procedures and processes, Woodside considers that despite this potential impact, the extremely low impact of PW is acceptable.

Internal Context

The Petroleum Activity is consistent with Woodside corporate policies, standards, procedures, processes and training requirements as outlined in the Demonstration of ALARP (above) and EPOs (below), including:

- Woodside Health, Safety, Environment and Quality Policy (Appendix A)
- Woodside Risk Management Policy
- Woodside Environmental Performance Procedure (which specifies maximum mixing zones and minimum sampling requirements).

Woodside corporate values include working sustainably with respect to the environment and communities in which it operates, listening to internal and external stakeholders, and considering HSE when making decisions. Stakeholder consultation, outlined below, was undertaken prior to the Petroleum Activity.

External Context

Woodside recognises that its licence to operate from a regulator and societal perspective is based on historical performance, complying with appropriate policies, standards and procedures, and understanding the expectations of external stakeholders. External stakeholder consultation (Section 5) was undertaken prior to the Petroleum Activity and stakeholder feedback (Appendix F) was incorporated into this EP where appropriate.

Woodside believes that providing PW monitoring and control measures that are commensurate with the risk rating, location and sensitivity of the receiving environment (including social and aesthetic values), any societal concerns are addressed to an acceptable level.

In addition, the Petroleum Activity is consistent with the objectives in the Ningaloo management plans (Management Plan for Ningaloo Marine Park and Muiron Islands Marine Management Areas, Ningaloo Marine Park Management Plan). Considerations regarding water quality, coral, shoreline and intertidal, macroalgal, seagrass, mangroves, seabirds and social and economic values are consistent with these management plans.

Environmental Performance Outcomes, Standards and Measurement Criteria			
Outcomes	***Controls***	***Standards***	***Measurement Criteria***
EPO 7 No impact to the environment outside the approved mixing zone from planned discharge of produced water.	C 6.1 Refer to Section 6.6.4	PS 6.1 Refer to Section 6.6.4	MC 6.1.1 Refer to Section 6.6.4
	C 7.1 Monitor and manage OIW concentrations in accordance with PARCOM 1997/16 Annex 3 methodology.	PS 7.1 OIW discharge is limited to less than 30 mg/L concentration over a 24-hour rolling average.	MC 7.1.1 Records demonstrate OIW rolling average limits are not exceeded.
	C 7.2 Inboard off-specification PW to maintain OIW concentrations less than 30 mg/L.		
	C 7.3 Implement the Monitoring and Management Framework for PW discharges including: • Monitoring of PW discharge volume • Chemical characterisation annual sampling (including mercury) • WET testing triennial sampling to be representative aiming to detect change.	PS 7.3 No impact to the environment from PW discharge outside the approved mixing zone based on multiple line of evidence.	MC 7.3.1 Records show routine monitoring has been conducted. Further investigations have identified no potential to impact ecosystem integrity from PW outside the acceptable limits.
	C 7.4 Online monitoring and/or procedural controls in place to monitor and control PW OIW concentrations and prevent discharge of PW with high OIW concentrations. Process performance monitored by OIW analyser. Conduct manual sampling on a 6-hourly basis if online analyser is unavailable, where safe and practicable to do so.	PS 7.4.1 Instrumentation integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE Technical Performance Standard(s) to prevent environmental risk related to damage to SECs for: • P31 – Environmental Emissions Monitoring and Controls, to: • provides means of detecting environmental releases, emissions and discharges to prevent MEEs from manifesting over time, and/or assure compliance monitoring and	MC 3.4.1 Refer to Section 6.6.2

Environmental Performance Outcomes, Standards and Measurement Criteria			
Outcomes	***Controls***	***Standards***	***Measurement Criteria***
		reporting equipment as required. • ensure monitoring data is available to control PW discharge volume and OIW concentrations; prevent discharge of PW with high OIW concentrations.	
		PS 7.4.2 If the OIW analyser is offline, manual sampling is undertaken when safe and practicable to do so. Six-hourly samples are taken in accordance with the Okha FPSO facility sampling requirements	MC 7.4.2 Records demonstrate manual sampling and calibration is undertaken as appropriate.
	C 7.5 The online analyser is calibrated with a manual sample in accordance with Offshore Laboratory Determination of Oil in Water Standard Operating Procedure.	PS 7.5 Complete calibrations of online analyser and manual OIW sampling equipment in accordance with Offshore Laboratory Determination of Oil in Water Standard Operating Procedure.	MC 7.5.1 Records show calibrations have occurred.
	C 7.6 On an annual basis review routine chemical characterisation monitoring results and determine if non routine sediment quality monitoring should be undertaken as per OMDAMP.	PS 7.6 Complete review of routine monitoring results and determine contaminants with the potential to impact sediments have increased and whether non routine sediment quality monitoring should be undertaken to determine extent of impacts	MC 7.6.1 Records show annual review has been conducted as described.

6.6.6 Routine and non-routine discharges: utility systems and drains

Context		
Drainage system – Section 3.6.4 Ballast system – Section 3.6.6 Facility utility systems – Section 3.6.8 Vessels – Section 3.8	Physical environment – Section 4.4 Protected species – Section 4.6	Stakeholder consultation – Section 5

Impact evaluation summary

Source of impact	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Discharge of sewage, greywater and putrescible waste	X	X		X	X		A	F	-	-	LCS GP PJ	Broadly Acceptable	EPO 8 EPO 6
Discharge of deck water, drainage systems and bilge water	X	X		X	X								
Discharge of brine	X	X		X	X								
Discharge of cooling water	X	X		X	X								
Discharge of firefighting media	X	X		X	X								

Description of source of impact

Discharge of sewage, putrescible waste and greywater

Sewage is treated onboard the Okha FPSO facility by a sewage treatment plant that includes maceration, treatment and disinfection. The sewage treatment plant is designed for a POB of up to 80 people, which is sufficient for routine and non-routine personnel levels. Greywater is discharged overboard the Okha FPSO facility without treatment, under normal conditions. Sewage and greywater treatment on vessels varies; however, sewage is treated to meet maritime regulations and requirements. Sewage treatment systems may require routine maintenance or repair during operations, which may necessitate infrequent, short periods of direct discharge.

Putrescible wastes (e.g. food scraps) from the Okha FPSO facility and vessels is macerated before being discharged overboard, as required by maritime regulations. Putrescible wastes may also be retained onboard and disposed onshore during periods where the macerator is unavailable (e.g. during maintenance).

The volume of sewage, greywater and putrescible waste generated is estimated to be around 6 m^3 per day, based on an average volume of 75 L per person per day. The actual volume of discharge varies depending on personnel levels on the Okha FPSO facility and vessels. Treated sewage and greywater from the Okha FPSO facility is discharged directly to the sea via the hull discharge line, below the sea surface. Discharge locations from vessels may vary; however, discharges are typically at or near the water surface.

Discharge of deck water, drainage systems and bilge water

Deck water, operational non-process discharges, process maintenance drainage and flushing discharges, washdown water and potential spills are contained in the non-hazardous and hazardous open drain systems onboard the Okha FPSO facility. These systems drain to the slops tank for treatment before being discharged overboard. Machinery space bilges on the Okha FPSO facility drain to machinery space bilge wells which are then pumped to the slops tank. The maintenance drain system leads to the rundown and blanket gas headers and collects spills and maintenance discharges from the compressor scrubbers and separators.

Chemicals used on the Okha FPSO facility may be introduced to drains system for activities such as, but not limited to:

- deck washdown, maintenance drainage of treated water systems (e.g. cooling medium), and other cleaning/flushing activities
- testing of the active fire deluge and foam system prescribed in the Safety Case, typically annually
- marine growth treatment of drain system.

The discharges are directed overboard to prevent contamination of the slops tank. Rainwater on the FPSO is also directed overboard.

Vessels routinely generate and discharge relatively small volumes of bilge water through an approved oily water separator. Bilge tanks receive fluids from many parts of the vessel, including machinery spaces. Bilge water can contain water, oil, detergents, solvents, chemicals, particles and other liquids, solids or chemicals. Water sources could include rainfall events and deck activities such as cleaning and wash-down of equipment and decks.

Discharge of brine

The freshwater generators on the Okha FPSO facility are used to produce potable water, with the brine discharged to the marine environment. Brine is generally 55 to 60 parts per thousand salt, with up to around 60 m^3 of brine produced per day. Small quantities of anti-scaling and cleaning chemicals may also be discharged with the brine. Small quantities of reverse osmosis (RO) brine may be generated by support or subsea vessels.

Discharge of cooling water

The seawater systems on the Okha FPSO facility and vessels are routinely used for process and machinery cooling (as described in Section 3.6.8.4); discharges are returned to the sea via outlets in the seawater disposal system (FPSO) or via marine sea chests cooling system (vessels). Seawater used for cooling uses hypochlorite generation to inhibit marine growth, dosed at 2 ppm. The average discharge rates of seawater from the Okha FPSO facility topsides cooling system and hull seawater cooling systems are around 47,400 m^3/day and 9600 m^3/day, respectively. The maximum seawater discharge temperature is 10°C above ambient. Discharge volumes from support vessels are significantly lower.

Discharge of firefighting media

Fire suppression systems are tested, typically annually to ensure they function correctly in emergency situations. Discharges from seawater and 1% concentration of AFFF chemicals form the foam-based systems used on the Okha FPSO facility for fire suppression. When tested, the systems providing coverage of the helideck, cargo decks, main deck and engine and pump rooms are directed overboard to prevent foam from contaminating the slops tank, which would decrease the effectiveness of gravity separation of hydrocarbons.

Impact assessment

Environmental value(s) potentially impacted

Sewage, putrescible waste and greywater

The main environmental impact associated with ocean disposal of sewage, greywater and putrescible waste is eutrophication. Eutrophication occurs when the addition of nutrients, such as nitrates and phosphates, causes adverse changes to the ecosystem, such as oxygen depletion and phytoplankton blooms.

No significant impacts from the planned (routine and non-routine) discharges to the marine environment are anticipated, given the minor quantities involved, the expected localised mixing zone, and the high level of dilution into the open water marine environment of the Operational Area.

Although the NWS Province is characterised as a low nutrient environment (Commonwealth of Australia, 2012), studies of adjacent shelf water have found the area to be ‘a highly productive ecosystem in which nutrients and organic matter are rapidly recycled’ (Furnas and Mitchell, 1999). The estimated daily loading from sewage and putrescible waste from vessels and the Okha FPSO facility (approximately 75 L per person per day) is not significant compared to the daily turnover of nutrients in the area. Furthermore, vessels are typically moving when in the Operational Area, which facilitates mixing of sewage, putrescible wastes and greywater when discharged.

This assessment is supported by infield monitoring of discharges undertaken around the GWA platform, which typically has more personnel onboard than the Okha FPSO facility or a vessel. Monitoring at GWA indicated no detectable decrease in oxygen saturation nor an increase in nutrients or oxygen demand. In addition, monitoring of sewage discharge demonstrated a 10 m^3 sewage discharge reduces to around 1% of its original concentration within 50 m of the discharge location (Woodside Energy Limited, 2006).

The impact of nutrients associated with discharging sewage, greywater and putrescible waste is considered localised with no lasting effect, due to the small mass and the assimilative capacity of the receiving environment.

Drains system

The slops tank receives inputs from a range of sources, including the Okha FPSO facility drain systems. Slops tank discharges are monitored to ensure oil content is below the limit by MARPOL. Slops tank water may contain small quantities of dissolved and residual hydrocarbons, and other chemicals such as detergents and cleaning agents. The

impacts of discharge from the slops tank can include a decline in water quality and may directly affect marine organisms, with impacts varying depending on volumes discharged and the type of contaminants. These impacts are assessed as being highly localised, with no lasting effect due to the rapid dilution and dispersion.

Bilge and deck drainage from vessels are expected to mix rapidly in the marine environment upon discharge. Given the rapid mixing, relatively small typical bilge and deck drainage water volumes, and expected low levels of potential contaminants, impacts from bilge and deck drainage water from vessels are assessed as highly localised with no lasting effect.

Brine

Brine plumes may result in osmotic stress to marine biota that rely on gills or diffusion across cell membranes to maintain osmotic pressure within cells. Mobile fauna such as fish may move away from the brine plume; hence, impacts are restricted to planktonic and sessile organisms.

Once discharged into the marine environment, the brine plume is expected to sink due to its relatively high density. Sinking of the plume will facilitate turbulent mixing, as will surface currents and waves. Recent water quality monitoring at the Okha FPSO facility indicated the brine plume mixed rapidly once released and was not readily detectable within 50 m of the discharge location (Woodside Energy Limited, 2006). On this basis, the RO brine plume is expected to mix rapidly. Impacts from discharging RO brine will have no lasting effect on the environment and are highly localised to the discharge location.

Cooling water

The impacts of cooling water can include a decline in water quality and may directly affect marine organisms due to temperature changes, with impacts varying depending on volumes, temperature and type of contaminants.

Temperature change from cooling water may affect open-water receptors (fish and plankton populations). Elevated seawater temperatures may cause a variety of effects on both fish and plankton, ranging from behavioural response (including attraction and avoidance behaviour) and minor stress for prolonged exposure. Fish are unlikely to be impacted by the elevated temperatures other than through behavioural changes. While impacts to plankton may include mortality, populations are expected to recover rapidly once discharge ceases because of the rapid turnover of plankton communities and mixing of adjacent populations.

Monitoring in the mixing zone around a similar Woodside FPSO (Ngujima-Yin) in Commonwealth waters of the Exmouth Sub-Basin, could not detect elevated temperatures (SKM, 2013), indicating temperatures returned to ambient within 10 m of the discharge point. Given the Okha FPSO facility typically discharges 57,000 m³/day compared to the 136,000 m³/day discharged by Ngujima-Yin, temperature elevation is expected to be undetectable within 10 m of the discharge point. No significant impacts from the planned discharges to environmental receptors are anticipated because of the localised mixing zone and high level of dilution into the open water marine environment.

Hypochlorite dosed at 2 ppm in the Okha FPSO facility cooling system to control biofouling. Once through the system, it is expected this will be reduced to <1 ppm of total residual chlorine (TRC) and is expected to readily dissociate and break down once discharged. TRC was modelled for Woodside's NRC (32 km west of the Okha FPSO facility) (SKM, 2007) at a concentration of 1 ppm and a higher discharge flow rate than the Okha FPSO facility. In all scenarios, the modelled concentrations were below the predicted NOEC for acute and chronic effects at 200 m distance from the discharge. The modelling also showed discharged TRC would need to be 2.7 ppm before the acute or chronic predicted NOEC is not reached at 200 m from the discharge source. Therefore, discharges are well below the 2.7 ppm within a 200 m mixing zone. Impacts from cooling water from the Okha FPSO facility are assessed as being highly localised and short-lasting and are anticipated to have no lasting effect on the environment.

Firefighting media

The firefighting foams currently used on Okha - Aberdeen Foam 1% AFFF-LF and Angus Tridol C6 S1 - are C6 fluorotelomer-based formulations that have been tested and verified to contain no detectable levels of PFOS, PFOA, or PFHxS above trace thresholds in alignment with IChEMS (July 2025) and IMO MSC.1/Circ.1312 January 2026 compliance standards. These foams may degrade into PFHxA, which is considered to have lower toxicity and bioaccumulation potential than legacy C8 compounds like PFOS. Given that firefighting systems on the Okha FPSO are contained and planned discharge is only associated with prescribed testing of the system as prescribed by facility Safety Case, typically annually, the impact on the environment is Minor.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)26***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
Okha FPSO facility and vessels comply with: • Marine Order 91 (Marine pollution prevention – oil) • Marine Order 95 (Marine pollution prevention – garbage) • Marine Order 96 (Marine pollution prevention – sewage).	F: Yes. CS: Minimal cost. Standard practice.	Marine Orders required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class. Marine Orders 91, 95 and 96 reduce the potential impact of marine wastewater discharges on water quality.	Controls based on legislative requirements and therefore must be adopted.	C 8.1
Firefighting media used on the Okha FPSO facility are IChEMS and IMO compliant.	F: Yes. CS: Low cost – requirements already embedded in procurement and operational practices	Ensures use of fire suppression media with verified performance and reduced environmental and human health risks.	Control aligns with legal obligations and provides risk mitigation at minimal cost.	C 8.2
Good practice				
Implement the Chemical Selection and Assessment Environment Guideline.	F: Yes. CS: Minimal. Woodside routinely implements this control.	Full assessment of all chemicals used for operations and IMMR activities provides the opportunity for Woodside to understand the potential environmental impacts of a possible chemical or hydrocarbon release before discharge from the utility systems.	The Chemical Selection and Assessment Environment Guideline is routinely implemented at Woodside and the OCNS, which it is based on, is widely used and accepted throughout industry. The cost of implementation is outweighed by the potential environmental benefits.	C 6.1
Putrescible waste from the Okha FPSO facility is macerated before overboard discharge under normal operations.	F: Yes. CS: Minimal cost. Standard practice.	Treating and macerating putrescible waste is standard industry practice, ensuring the substance disperses in the receiving environment with minimal effects to water quality.	Benefit outweighs cost/sacrifice.	C 8.3
Sewage from the Okha FPSO facility is processed by a sewage treatment plant before	F: Yes. CS: Minimal cost. Standard practice.	Treating sewage is standard industry practice, ensuring the substance disperses in the receiving	Benefit outweighs cost/sacrifice.	C 8.4

26 Qualitative measure

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)26***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
discharge under normal operations.		environment with minimal effects to water quality.		
Annual check of 1) regulatory changes relevant to use of AFFF and 2) market availability of an alternative chemical that can be adopted using the existing fire suppression system on the Okha FPSO	F: Yes CS: Minimal administrative burden.	Enables timely ability to adapt to regulatory changes and identification of timely assessment of market offerings of alternate chemicals if they become available.	Low cost and ensures continuous improvement.	C 8.5
Professional judgement – eliminate				
Store, transport and treat/dispose of sewage, greywater, putrescible and bilge wastes onshore.	F: No. Would present additional safety and hygiene hazards resulting from storing, loading and transporting the waste material. CS: Not considered, control not feasible.	Not considered, control not feasible.	Not considered, control not feasible.	No
Restriction of AFFF use to essential testing, as per testing arrangements set out in the facility Safety Case.	F: Yes CS: Aligns with existing use practices	Significantly reduces frequency and volume of foam discharged. Limits environmental exposure and accumulation risk. Use as per the arrangements set out in the accepted f**acility** Safety Case	Standard operating procedure which is proportionate in cost to the environmental benefits gained	C 8.7
Professional judgement – substitute				
Long-term transport of potable water from shore for the Okha FPSO facility and vessels.	F: Yes. Potable water can be sourced from onshore water supplies. CS: Significant. The long-term costs and operational complexity associated with potable water bunkering outweigh the cost and negligible environmental footprint associated with offshore RO supply.	The potential environmental impact is ranked as having negligible effect; eliminating RO brine from the discharge would provide negligible environmental gain.	When considering the negligible impact from the discharge of RO brine, reliance on bunkering of potable water and incremental support vessel activities is grossly disproportionate to the environmental impact.	No
Replacement of AFFF with fluorine-free foam (e.g. F3)	F: No, limited availability of alternatives that meet the required performance criteria and are compatible with the current system	Potential elimination of PFAS-related environmental risk, particularly PFHxA persistence.	Substitution introduces trade-offs including increased chemical use, higher storage needs, and potential impacts to fire suppression reliability.	No

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)26***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
	design (i.e. no major system modifications). CS: Replacement involves system requalification, operational risk and cost.		This is disproportionate relative to the planned use.	
Professional judgement – engineered solution				
Open hazardous drains systems integrity maintained, and oily water separator pump available to support hydrocarbon recovery from Okha FPSO facility slops tank.	F: Yes. CS: Minimal cost. Standard practice.	The open hazardous drain system is maintained to support appropriate disposal of environmentally hazardous liquids.	Benefit outweighs cost/sacrifice.	C 8.8
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with routine discharges from utility systems to be localised with no lasting effect. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts/risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact/risk assessment has determined that, given the adopted controls, routine discharges from utilities may result in localised effects with no lasting impacts to water quality, sediments and ecosystems/habitats. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts/risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 8 Impacts from routine and non-routine discharges of liquid waste will be limited to planned activities and impacts described as part of the Petroleum Activity.	C 8.1 Okha FPSO and vessels comply with: • Marine Order 91 (Marine pollution prevention – oil) • Marine Order 95 (Marine pollution prevention – garbage) • Marine Order 96 (Marine pollution prevention – sewage).	PS 8.1 The Okha FPSO and vessels comply with Marine Orders as applicable to the vessel size, type and class.	MC 8.1.1 Marine verification records demonstrate compliance with requirements under Marine Orders 91, 95 and 96.
	C 8.2	PS 8.2	MC 8.2.1

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	Firefighting media used on the Okha FPSO facility are IChEMS and IMO compliant.	Firefighting media used on the Okha FPSO facility comply with ICheMS and IMO.	Verification records demonstrate compliance with IChEMS and IMO requirements.
	C 6.1 Refer to Section 6.6.4.	PS 6.1 Refer to Section 6.6.4.	MC 6.1.1 Refer to Section 6.6.4.
	C 8.3 Putrescible waste from the Okha FPSO facility is macerated before overboard discharge under normal operations.	PS 8.3 All putrescible waste discharged to sea from the Okha FPSO facility are macerated.	MC 8.3.1 Putrescible waste system maintenance records.
	C 8.4 Sewage from the Okha FPSO facility is processed by a sewage treatment plant before discharge under normal operations and discharged in accordance with the International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (MARPOL) requirements.	PS 8.4 Sewage discharged to sea from the Okha FPSO is in accordance with MARPOL requirements.	MC 8.4.1 Sewage system maintenance records.
	C 8.5 Annual check of 1) regulatory changes relevant to use of AFFF and 2) market availability of an alternative chemical that can be adopted using the existing fire suppression system on the Okha FPSO	PS 8.5 Updates to regulatory changes and market offerings are checked annually.	MC 8.5.1 Records demonstrate that an annual check is performed.
	C 8.7 Restriction of AFFF use to essential testing, as per testing arrangements set out in the facility Safety Case.	PS 8.7 Use of AFFF is limited to testing arrangements set out in the accepted **facility** Safety Case.	MC 8.7.1 Records demonstrate that AFFF use is limited to testing arrangements set out in the accepted Safety Case.
	C 8.8 Facility open hazardous drain system integrity maintained to contain potential spilled liquid hydrocarbon in areas as appropriate to safe integrated facility design.	PS 8.8 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE Technical Performance Standard(s) to prevent environment risk related damage to SCEs for: • F22 – Hazardous Open Drains	MC 3.4.1 Refer to Section 6.6.2

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		to: • prevent escalation of an incident after fire, explosion or loss of containment, by removing or containing flammable liquid from hazardous areas • support appropriate containment and disposal of environmentally hazardous liquids to avoid damage to the environment.	

6.6.7 Routine and non-routine atmospheric (direct and indirect) and greenhouse gas (direct and indirect) emissions

Context		
Operational details – Section 3.6 Support operations – Section 3.8	Physical environment – Section 4.4 Habitats and biological communities – Section 4.5 Protected species – Section 4.6 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Impact evaluation summary

Source of impact	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Okha FPSO facility fuel combustion emissions.			X				A	F	-	-	LCS GP PJ	Broadly Acceptable	EPO 9
Okha FPSO facility operational flaring and fugitive emissions			X								LCS GP PJ		
Support operations fuel combustion emissions			X								RB A CV SV		
Consideration of indirect emissions associated with third party transport of products, refining, regassification and combustion.			X			X	B						EPO 10

Description of source of impact

Air emissions associated with the Petroleum Activity can be classified into two categories:

- Atmospheric emissions (non-greenhouse gas emissions) are gases and particulates from an activity, or from the operation of a piece of machinery, which may have an adverse effect on human health or the environment . The main emissions responsible for these effects include carbon monoxide (CO), oxides of nitrogen (NO_x), sulphur dioxide (SO_2), particulate matter less than 10 microns (PM_{10}), non-methane volatile organic compounds (VOCs), BTEX (benzene, toluene, ethylbenzene and xylenes), which are specific VOCs of interest.
- Greenhouse gas (GHG) emissions refer to gases that trap heat within the atmosphere through the absorption of longwave radiation reflected from the earth's surface. The main gases associated with this effect include carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O). Other greenhouse gases include perfluorocarbons (PFCs), hydrofluorocarbons (HFCs) and sulphur hexafluoride (SF6). There are considered to be both direct and indirect GHG emissions.

In this section, atmospheric emissions estimates are developed in line with the National Pollutant Inventory (NPI) emission estimation techniques (EET). GHG emissions are estimated using the *National Greenhouse and Energy Reporting (NGER) Measurement Determination 2008* (Cth) and reported as required under the National Greenhouse and Energy Reporting Scheme.

The following section has been separated into direct emissions (Scope 1 and 2) and indirect emissions (Scope 3), aligned with the definitions of the GHG Protocol Corporate Standard (GHG Protocol 2015) and NGER. As the Okha FPSO generates its own power, there are no Scope 2 emissions associated with the activity.

The main sources of GHG emissions associated with the Petroleum Activity are shown in Table 3-12. GHG emissions sources that are not part of the Petroleum Activity, such as GHG emissions from third party transportation, oil refining, onshore processing of Okha gas, and combustion by end-users are included for consideration as indirect emissions. In the context of this EP, GHG emissions are classified as direct and indirect emissions, as shown in Table 3-12.

The GHG Protocol 2015 defines indirect GHG emissions as '*emissions that are a consequence of the activities of the reporting entity but occur at sources owned or controlled by another entity*.' For the purposes of this EP the "reporting entity" is the Okha FPSO facility and facility processes are considered direct emissions sources. Third party transportation, oil refining, onshore processing of gas as well as support vessels and helicopter operations are considered indirect emissions sources.

Indirect atmospheric emissions – onshore processing

Indirect atmospheric emissions (non-greenhouse gas emissions) are gases and particulates released into the atmosphere from an activity indirectly associated with the petroleum activity, which may have an adverse effect on human health or the environment. A potential indirect atmospheric emissions impact or risk from the Okha facility petroleum activity is via the atmospheric emissions generated from the onshore processing of gas at KGP, where a small amount of Okha gas is currently processed (currently comprising 0.01% of the total gas processed onshore at KGP, as further discussed below). The potential impacts and risk and subsequent controls for minimising and mitigating these potential impacts and risks have not been assessed in this EP as the amount of gas from the CWLH fields at KGP is considered immaterial, as illustrated below.

As described in Section 3.1, the Okha facility is an FPSO designed to separate, process, store and offload oil, as well as export gas from the CWLH fields via the WC GEL. The WC GEL connects the Okha facility to the NRA PLEM from where gas is directed via one of two trunklines to shore for processing at KGP. The operation of the trunklines is covered in the NRC Facility Operations EP.

The onshore processing of gas at KGP will result in the release of atmospheric emissions. However, oil production accounts for more than 99% of total output from the Okha facility. The 1% of gas that is produced is primarily used as fuel gas, and any excess gas from the CWLH fields that is processed at KGP currently represents less than 0.01% of the total gas processed onshore at KGP. The gas processed at KGP is primarily from the NRC, GWA and Angel offshore facilities, which currently comprise 99.99% of the gas processed onshore at KGP. In addition, it is expected, within the next five years that gas export from the Okha facility will cease and the facility will begin to import gas via the WC GEL. As Okha's contribution to onshore gas processed at KGP is considered inconsequential and is anticipated to cease in the next 5 years, indirect emissions from onshore processing of Okha gas at KGP have not been included in this EP.

The potential onshore impacts and risks associated with onshore processing emissions including a detailed evaluation of potential controls applied at KGP such as cultural heritage management requirements under the relevant ministerial statement for KGP is provided in the revised NRC Facility Operations EP currently under assessment with NOPSEMA.

Direct atmospheric and GHG emissions

Direct emissions generated from the Okha FPSO facility during the Petroleum Activity include emissions from internal combustion engines (including equipment and generators), non-routine flaring and fugitive emissions. Direct emissions and combustion products typically include CO_2, water vapour, NO_x, SO_2, methane, refrigerant gases, particulates and VOCs. The Okha FPSO facility does not have any continuous routine flaring (refer to Section 3.6.2.2), nor does it have any planned venting.

A historical four-year emissions summary of GHG emissions is provided in Table 6-11. Estimates for GHG emissions are derived from a review of NGERS reporting for all relevant direct emissions streams since FY21 when Woodside's calculation approach for the Okha FPSO facility became aligned with standardised NGERS methodology.

Table 6-11: Four-year Okha FPSO facility GHG (NGER) emissions summary.

	FY21	FY22	FY23	FY24
Fuel gas				
m^3	25,949,413	30,954,757	31,426,305	28,944,377
CO_2 (t)	52,447	62,536	63,482	58,468
CH_4 (tCO_2-e)	102	122	124	114
N_2O (tCO_2-e)	31	37	37	34
Diesel				
m^3	5,997	3,983	6,445	3,643
CO_2 (t)	16,179	10,747	17,395	9,839
CH_4 (tCO_2-e)	23	15	25	14

N_2O (tCO_2-e)	49	31	50	34
Flared gas				
Tonnes	12,875	29,855	4,766	2,723
CO_2 (t)	36,050	83,593	13,344	7,625
CH_4 (tCO_2-e)	12,012	27,854	4,446	2,541
N_2O (tCO_2-e)	335	776	124	71
Fugitives				
Fugitives (tCO_2-e)	976	2,419	2,202	1,679
Total				
Total (tCO_2-e)	118,204	188,129	101,229	80,419
Total ($MtCO_2$-e)	0.12	0.19	0.10	0.08

Inter-annual variation in realised air emissions is due to a number of factors such as reservoir and production system performance outcomes, non-routine activities including shutdowns and maintenance activities as well as unplanned reliability events. FY22 produced the highest level of emissions due to greater-than-usual shutdowns from cyclone activity requiring blow down of the system prior to FPSO disconnect.

Cyclone activity was relatively low in FY24, which contributed to commensurately low GHG emissions from flaring. In FY23, cyclone activity was moderate and this enabled more consistent operations with no excess shutdowns required, or reliability issues. Total GHG emissions in FY23 of 101,229 tCO_2-e is considered the most appropriate baseline year to achieve on average over the next 5 year period under this EP and also used as an estimate until EOFL (2031), and this forms the basis of the impact assessment. Variance within the period may occur, in particular in relation to increased cyclonic activity and associated shutdowns and start-ups which could increase emissions.

Fuel gas consumption

Fuel gas consumption for compression and power generation is the largest source of combustion emissions from the Okha FPSO facility during routine operations. The largest use of fuel gas is for gas export compressors for each train and the gas turbine generators that supply power to the facility.

Total fuel gas use in FY23 was 31,426,305 m^3 and associated GHG emissions were approximately 64,000 tCO_2-e.

During the life of this EP, it is expected that the Okha FPSO facility will require fuel gas to start to be imported to supplement the existing fuel gas, as the gas reserves of the fields decline. It is also expected that the Okha FPSO facility will cease exporting gas to the KGP as a result. These changes are anticipated to balance out with other steams of GHG emissions so that total GHG emissions of ~101,229 tCO_2-e can be produced annually on average over of the life of the EP, and until EOFL.

Diesel consumption

Diesel is used for firewater pumps, emergency generators, cranes and back-up fuel for the turbine generators. Diesel may also be used for start-up or abnormal operating conditions prior to availability of sufficient fuel gas pressure.

Total diesel consumption in FY23 was 6,445 m^3 and associated GHG emissions were approximately 17,500t CO_2-e. Diesel consumption from standard operations should remain stable with any material variance driven by shutdown activity and other reliability events.

In addition to GHG emissions from consumption of fuel gas and diesel described above, atmospheric emissions from fuel gas and diesel consumption from the Okha FPSO facility in FY23 is summarised in Table 6-12.

Table 6-12: Atmospheric emissions from fuel combusted onboard the Okha FPSO facility in FY23

Emission type	Estimated annual emissions from fuel gas combustion	Estimated annual emissions from diesel combustion
NO_x (t)	254	342
SO_x (t)	0	0
CO (t)	65	90

Flaring

During normal operations, there is no planned routine flaring from the Okha FPSO facility (refer to Section 3.6.2.2). Non-routine flaring, however, is necessary, primarily as a safety requirement resulting from activities such as unplanned shutdowns and emergency shutdowns, production restarts, equipment outage/failures, subsea flowline depressurisation, and well remediation activities.

Gas flaring emits gases to the atmosphere and consumes natural gas, a non-renewable resource. Emissions and combustion products include CO_2, NO_x, SO_2, methane, particulates, and VOCs. Incomplete combustion under certain scenarios may also generate dark smoke. During flaring, the burnt gas generates mainly water vapour and CO_2.

In 2017, Woodside became signatory to the World Bank's Zero Routine Flaring Initiative (ZRFI) applicable to all oil assets. Woodside's implementation of the ZRFI involves reporting on flaring according to the following definitions:

- Routine Flaring: Routine flaring of gas is flaring during normal oil production operations in the absence of sufficient facilities or amenable geology to re-inject the produced gas, utilize it on-site, or dispatch it to a market. Routine flaring does not include safety flaring, even when continuous. *Note: There is no routine flaring associated with Okha FPSO operations.*
- Safety Flaring: Safety flaring of gas is flaring to ensure safe operation of the facility (e.g. flaring of gas from an incident that jeopardises safe operation, blowdown gas, flare maintenance gas [purge/make-up/fuel gas]), pilot gas, gas flared due to safety-related operations such as ESD and leak tests, dry gas seals, gas containing H_2S including dispersant/assist gas and gas that contains high levels of VOCs).
- Non-routine Flaring: Non-routine flaring is all flaring other than routine and safety flaring (typically intermittent and of short duration and can either be planned or unplanned. It includes flaring resulting from temporary failure of equipment that handles the gas during normal operations until its repair or replacement, temporary failure of customer facilities that prevents the receipt of gas, start-up, scheduled preventative maintenance and inspections, process upsets, reservoir/well maintenance activities and well testing/clean-up).

In FY23, 4,766 tonnes of hydrocarbon was flared, generating GHG emissions of approximately 18,000 tCO_2-e (Table 6-13). Minimal safety flaring is anticipated as the Okha FPSO facility does not routinely flare (safety flaring is generally less than 0.01% of total flaring).

In addition to GHG emissions from flaring described above, atmospheric emissions from flaring from the Okha FPSO facility in FY23 is summarised in Table 6-12.

Table 6-13: Atmospheric emissions from flaring at the facility in FY23

Component	Metric	Estimated annual emissions
NO_x	Tonnes	7
SO_x	Tonnes	0
CO	Tonnes	41

Fugitive emissions

Fugitive emissions can occur from pressurised equipment and are inherent in design. Fugitive emissions may occur due to infrequent operational activities, or unintentional equipment leaks. Sources can include valves, flanges, pump seals, compressor seals, relief valves, vents, sampling connections, process drains, open-ended lines, casing, tanks and other potential leakage sources from pressurised equipment.

Discrete and relatively small volumes of packed gases and charged systems including non-ozone depleting refrigerant gases are used at the Okha FPSO facility. These have potential for small volume leaks (typically less than 100 kg per isolatable inventory). The Okha FPSO facility is also fitted with a gaseous fire extinguishing system utilising CO_2 and Inergen, which have zero ozone-depleting potential and a low global warming potential. The gaseous fire extinguishing agents are only released as required by the applicable safety system or as per certification testing requirements.

As much of the safe operation of the Okha FPSO relies on the effective containment of hydrocarbons, the volumes of routine and non-routine fugitive emissions are considered to be small. Fugitive emissions are, by their nature, difficult to quantify and are estimated by application of methods under the National Greenhouse and Energy Reporting (Measurement) Determination. Using this estimation technique, the Okha FPSO reported between 976 (FY21) and 2,419 tCO_2-e per year (FY22) across the last four years lost through fugitive emissions and this remains the expected level for the EP period (next five years), and until EOFL (Table 6-11).

POOMP Implementation at Okha

Okha Operations applies the Production Optimisation and Opportunity Management Procedure (POOMP) (see also Section 7.2.7.6.1) to identify and implement initiatives that aim to improve production efficiency and reduce air emissions, with an emphasis on maintaining Okha's status as a not-normally-flaring facility.

Key initiatives being progressed under the POOMP framework include:

- Gas Turbine Start-Up Optimisation: This opportunity targets reduced fuel gas consumption and non-routine flare volumes during turbine start-up sequences. Adjustments to operating procedures are being implemented to shorten start-up times and reduce associated emissions.
- Hot Swap Exhaust Gas Cooler: A project to enable rapid changeover between export gas cooler units without extended shutdowns or flaring, is underway. This supports Okha's not-normally-flaring model and improves system reliability by reducing downtime during planned or unplanned maintenance.

- Okha EGC and LGC Re-Wheel: The project is proposing to re-wheel the Export Gas Compressor and Lift Gas Compressor. This is expected to improve energy efficiency by minimising compressor operation in recycle resulting in a reduction in fuel gas consumed.

Opportunities are identified through regular cross-functional forums, production performance reviews, and annual workshops. These inputs feed into the POOMP workflow, where they are assessed and progressed based on value, technical feasibility, emissions reduction potential, and impact on asset reliability, as described in 7.2.7.6.1.

Methane Management at Okha

Methane emissions from the Okha FPSO facility are considered immaterial under the OGMP 2.0 framework due to the facility's non-routine flaring design, absence of routine venting, and low gas production volumes. A targeted drone-based methane emissions survey was undertaken in 2022, providing direct measurement data and confirming that Okha's methane emissions are minimal.

Indirect atmospheric and GHG emissions

Emissions from support operations

Indirect GHG emissions are generated by facility support and IMMR vessels, including USVs, as well as helicopters supporting the Petroleum Activity. Vessel emissions include those from internal combustion engines, fugitives and onboard incinerators on both facility support and IMMR vessels, including USVs. Emissions and combustion products will typically include CO_2, water vapour, NO_x, SO_2, methane, refrigerant gases (including ozone depleting substances), particulates and Volatile Organic Compounds (VOCs).

Emissions from these vessels may vary depending on the nature of activities being undertaken; for example, travelling or "steaming" to a destination at low speed uses less fuel and generates lower GHG and atmospheric emissions than high speed steaming. Emissions generated during safety-related vessel standby activities, holding station using DP during loading and unloading of materials to the facility or undertaking subsea IMMR work also vary. Some vessels may be dual-fuel capable and can use LNG, in which case combustion emissions are expected to be lower.

Expected annual indirect GHG emissions for support vessels and helicopter operations have been estimated based on reported values for FY21, which is considered a representative year of level of support activities:

- 2962 tCO_2-e for facility support and IMMR vessels, including USVs.
- 200 tCO_2-e for helicopters.

Indirect emissions relating to vessels and helicopter operations is a small contribution to the total emissions profile of the Petroleum Activity and are not expected to vary materially for the duration of the EP.

Emissions from Shipping and Refining (oil), Onshore Processing (gas), as well as End-Use Attributable to Okha

Indirect emissions associated with the Petroleum Activity arise from third party transport of products, refining (oil), regassification (gas), distribution and end-use. This stream of indirect GHG emissions associated with the Petroleum Activity were estimated based on operational production data, including:

- Total production – indirect emissions (shipping and refining of oil as well as end-use) are proportional to total production, which varies with shutdown activity, or gradual reservoir decline
- Composition of produced gas – onshore emissions are proportional to reservoir CO_2
- Split of saleable products from KGP – the proportion of hydrocarbons from Okha sold as LNG, condensate, domestic gas and LPG varies. Each product requires differing amounts of energy to process to the point of sale and varies based on reservoir composition, field contribution and commercial reasons.

Forecast direct and indirect GHG emissions are presented in Table 6-11. Forecast GHG emissions estimates are sensitive to production rate and non-routine events, which are subject to uncertainty associated with reservoir and process performance and will change over the life of the facility. Gas produced from the CWLH reservoirs accounts for less than 0.01% of gas processed onshore at KGP. Oil production accounts for more than 99% of total production from Okha with Okha primarily an oil facility.

Indirect emissions associated with the Petroleum Activity from third party transport of products, refining (oil), regassification (gas), distribution and end-use are estimated to be approximately 1.06 $MtCO_2$-e per year for the duration of the EP (Table 6-14). This estimate is conservative, as they do not include possible abatement or offsets applied voluntarily or through regulatory mechanisms in Australia and across the value chain and product lifecycle, including internationally.

Table 6-14: Summary of direct and indirect GHG emissions attributable to the Petroleum Activity

Source of impact	Annual estimated emissions ($MtCO_2$-e)	Total estimated emissions until EOFL[2] ($MtCO_2$-e)
Direct emissions (associated with the Okha FPSO facility)		
Fuel, flaring (non-routine and safety) and fugitives	0.08	0.5

Indirect emissions		
Onshore processing[1]	0.00068	0.0236
Support operations	0.0034	0.12
Third party transport of products, refining (oil), regassification (gas), distribution and end-use[3, 4]	1.06	7.45

1 Based on KGP emissions intensity apportionment calculation.

2 EOFL is predicted to be 2031, subject to reservoir performance and life extension studies.

3 Source: Transport and refining based on Oil-Climate Index factors for Australia Cossack. Combustion factors aligned with UN's 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Emissions factors used are the default values as product customer's destination and use of the products are unknown.

4 Source: EcoInvent 3.5 database and National Greenhouse and Energy Reporting (Measurement) Determination 2008. EcoInvent v3.5 represents a large collection of inventory data, used as an approximation of third-party lifecycle LNG use for cargos delivered to China. It has been recognised as emission factor source for the European Union Renewable Energy Direction greenhouse gas methodology and is aligned to the principles of the NGERS methodology. Total emissions presented do not consider potential third-party net reduction by way of voluntary and regulatory abatement/offsets.

Woodside's current forecast is that the reservoirs produced via the Okha FPSO facility will decline toward EOFL. Other reservoirs may be discovered and/or tied-back to the Okha FPSO facility to mitigate the decline, but overall, the trend of hydrocarbon production from the Okha FPSO facility and associated indirect emissions from end-use of hydrocarbons are expected to also decline.

Impact assessment

Global efforts to reduce greenhouse gas emissions in order to meet climate goals are changing the way the world produces and consumes energy. This energy transition is uncertain and there is a wide range of potential demand for oil, gas and new energy including in pathways consistent with limiting global temperature rise. Today, Woodside has a portfolio of oil and gas assets and is also developing a portfolio of new energy products and lower carbon services. Across our portfolio we seek to match the pace, scale and needs of our customers as they determine their own decarbonisation pathways.

Air Quality

Facility emissions, predominantly from fuel combustion, have the potential to result in localised, temporary reduction in air quality, generation of dark smoke (if incomplete combustion occurs) and contribution to GHG emissions. Potential impacts of emissions depend on the nature of the emissions, as well as the location and nature of the receiving environment.

The Okha FPSO facility design (including the rapidly dispersive characteristics of the gas turbine exhausts, flare and other emissions) and the estimated level of pollutants in emissions, as well as the absence of elevated background ambient levels have been considered in estimating the potential for interaction with human and environmental sensitivities. The Operational Area is in a remote offshore location, with no expected adverse interaction with populated areas or sensitive environmental receptors associated with air emissions.

There is a breeding BIA for the wedge-tailed shearwater overlapping the Operational Area; as such, wedge-tailed shearwaters may occur near to the facility airshed. The nearest potential seabird roosting habitat, over 100 km southeast of the Operational Area. Given the highly dispersed nature of facility air emissions, no adverse impacts to birds are anticipated due to air emissions.

Potential impacts are expected to be localised air quality changes, limited to the airshed local to the Operational Area with no lasting effect. Air emission impacts are not expected to have direct or cumulative impacts on sensitive environmental receptors, or above National Environmental Protection (Ambient Air Quality) Measures. Additionally, air quality around the Okha FPSO facility is maintained to provide a safe working environment for operational staff.

The offshore location means that any non-routine flaring and potential black smoke resulting from emissions are not directly visible from the nearest landfall (approximately 100 km south-east of the Operational Area at the closest point). Hence, no impacts to visual amenity for residential communities or to tourism activities are expected.

Climate Change – Global and Australian Context

Climate change is caused by the net global concentration of greenhouse gases in the atmosphere. Climate change impacts upon Australian receptors cannot be directly causally linked to any one activity or one project, including the operation of the Okha FPSO facility as they are instead the result of global GHG emissions, minus global GHG sinks, that have accumulated in the atmosphere since the industrial revolution started. Noting that human-caused climate change is a consequence of more than a century of net GHG emissions from energy use, land use change, lifestyle patterns of consumption, and production (IPCC 2023), the following contextual evaluation of Climate Change impacts is provided. This contextual evaluation assessment considers the potential impacts of climate change on sensitive receptors, including MNES within Australian jurisdictions.

Climate science is a rapidly evolving field in which new observations continue to deepen understanding of the current and potential impacts of global warming, and the possible pathways for mitigation and adaptation.

The CSIRO State of the Climate 2024 Report (CSIRO, 2024) draws on the latest national and international climate research, encompassing observations, analyses and future projections to describe year-to-year variability and longer-term changes in Australia's climate. Key points from this report on measured warming trends and forecast trajectories include the following:

- Australia's climate has warmed by an average of 1.51 ± 0.23 °C since national records began in 1910.
- Sea surface temperatures have increased by an average of 1.08 °C since 1900.
- The warming has led to an increase in the frequency of extreme heat events over land and in the oceans.
- Mass coral bleaching is a stress response of corals occurring primarily due to elevated ocean temperature, with five bleaching events associated with marine heatwaves occurring on the Great Barrier Reef over the past 10 years: in 2016, 2017, 2020, 2022 and 2024. In 2016, bleaching was associated with then record high sea surface temperatures, which in turn led to the largest recorded mass bleaching to date on the Great Barrier Reef.
- The 2022 event was the first time that mass bleaching occurred on the Reef during a La Niña year. Accumulated thermal stress during the 2024 event was higher than in 2016, although the full impact in terms of bleaching is still being assessed.
- In 2022 bleaching was also observed on some reefs on Australia's west coast, including Ningaloo Reef. This was due to warm ocean temperatures, driven by the 2021–2022 La Niña. The region's previous severe marine heatwave was driven by the 2010–2011 La Niña, which resulted in bleaching being recorded for the first time on Ningaloo and the closure of several Western Australian fisheries.
- In the south-west of Australia there has been a decrease of around 16% in April to October rainfall since 1970. Across the same region, May to July rainfall has seen the largest reduction, by around 20% since 1970.
- In the south-east of Australia, there has been a decrease of around 9% in April to October rainfall since 1994.
- Heavy short-term rainfall events are becoming more intense.
- There has been a decrease in streamflow at most gauges across Australia since 1970.
- There has been an increase in rainfall and streamflow across parts of northern Australia since the 1970s.
- There has been an increase in extreme fire weather, and a longer fire season, across large parts of the country since the 1950s.
- There has been a decrease in the number of tropical cyclones observed in the Australian region since at least 1982.
- Snow depth, snow cover and number of snow days have decreased in alpine regions since the late 1950s.
- Oceans around Australia are becoming more acidic, with changes happening faster in recent decades.
- Sea levels are rising around Australia, including more frequent extreme high levels that increase the risk of inundation and damage to coastal infrastructure and communities.
- The CSIRO report states that in the coming decades, Australia will experience ongoing changes to its weather and climate which are projected to include:
- Continued increase in air temperatures, with more heat extremes and fewer cold extremes.
- Continued decrease, on average, in cool season rainfall across many regions of southern and eastern Australia, which will likely lead to more time in drought.
- More intense short-duration heavy rainfall events even in regions where the average rainfall decreases or stays the same.
- Continued increase in the number of dangerous fire weather days and a longer fire season for much of southern and eastern Australia.
- Further sea level rise and continued warming and acidification of the oceans around Australia.
- Increased and longer-lasting marine heatwaves that will affect marine environments such as kelp forests and increase the likelihood of more frequent and severe bleaching events in coral reefs around Australia, including the Great Barrier Reef and Ningaloo Reef.
- Fewer tropical cyclones, but with higher intensity on average, and greater impacts when they occur through higher rain rates and higher sea level.
- Reduced average snow depth in alpine regions, but with variations from year to year.

The IPCC is the United Nations body for assessing the science related to climate change and finalised the Sixth Assessment Report (AR6) in 2023. This consists of three Working Group contributions and a Synthesis Report. A summary of outcomes of the working group's contributions comprises a range of matters, which amongst others include:

- The AR6 Working Group I (AR6-WG1) report stated that it is unequivocal that there is human-induced warming. It also stated that increased atmospheric carbon dioxide (CO_2) levels, generated by human activity, are the largest driver of warming over the longer term, and that there are a range of factors, including emissions of methane, which increase warming in the short-term.
- The AR6 Working Group II (AR6-WG2) report stated that human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability. It stated that global warming, reaching 1.5°C in the near-term, would cause unavoidable increases in multiple climate hazards and present multiple risks to ecosystems and humans. The report noted that societal choices and actions implemented in the next decade will determine the extent to which medium- and long-term pathways will deliver climate resilient development.
- The AR6 Working Group III (AR6-WG3) report provided an updated global assessment of climate change mitigation progress and pledges and examined the sources of global emissions. It explained developments in emissions reduction and mitigation efforts and assessed the impact of national climate pledges in relation to long-term emissions goals. More than 2000 quantitative emissions pathways were submitted to the IPCC, of which 1202 scenarios included sufficient information for assessing the associated warming. The report found that there are many pathways in the literature that likely limit global warming to 2°C with no overshoot, or to 1.5°C with limited overshoot. These variations occur because, while climate science is able to calculate a 'carbon budget' of net emissions before any particular temperature outcome is reached, the allocation of this budget between different human activities requires additional judgements about for example technology, economics, consumer preferences and policy choices.
- The AR6 Working Group I (AR6-WGI) report states "[climate change is a global phenomenon, but manifests differently in different regions" (IPCC 2021b). IPCC projections for climate change in Australia from the AR6 Working Group II (AR6-WGII) report include:
  - further climate change is inevitable, with the rate and magnitude largely dependent on the emission pathway (very *high confidence*)[27]
  - ongoing warming is projected, with more hot days and fewer cold days (*very high confidence*)
  - further sea level rise, ocean warming, and ocean acidification are projected (*very high confidence*)
  - less winter and spring rainfall is projected in southern Australia, with more winter rainfall in Tasmania, less autumn rainfall in southwestern Victoria and less summer rainfall in western Tasmania (*medium confidence*), with uncertain rainfall changes in northern Australia
  - more extreme fire weather is projected in southern and eastern Australia (*high confidence*)
  - increased drought frequency is projected for southern and eastern Australia (*medium confidence*)
  - increased heavy rainfall intensity is projected, with fewer tropical cyclones and a greater proportion of severe cyclones (*medium confidence*) (Lawrence et al., 2022).
  - The AR6-WGII also contains information about projected impacts to health and well-being for the Australasian region including, amongst others:
  - detrimental effects on human health due to heat stress, changing rainfall patterns including floods and drought climate-sensitive air pollution (including that caused by wildfires) (high confidence) and vector-borne diseases (medium confidence)
  - vulnerability to detrimental effects of climate change will vary with socioeconomic conditions (high confidence) (Lawrence et al. 2022).
- The AR6-WGII report identified nine key climate risks for the Australasian region:
  - loss and degradation of coral reefs and associated biodiversity and ecosystem service values in Australia due to ocean warming and marine heatwaves (very high confidence)
  - loss of alpine biodiversity in Australia due to less snow (high confidence)
  - transition or collapse of alpine ash, snow gum woodland, pencil pine and northern jarrah forests in southern Australia due to hotter and drier conditions with more fires (high confidence)
  - loss of kelp forests in southern Australia due to ocean warming, marine heatwaves, and overgrazing by climate-driven range extensions of herbivore fish and urchins (high confidence)
  - loss of natural and human systems in low-lying coastal areas due to sea level rise (high confidence)
  - disruption and decline in agricultural production and increased stress in rural communities in south-western, southern and eastern mainland Australia due to hotter and drier conditions (high confidence)

[27] *A level of confidence is expressed using five qualifiers: very low, low, medium, high, and very high. For a given evidence and agreement statement, different confidence levels can be assigned but increasing levels of evidence and degrees of agreement are correlated with increasing confidence (Lawrence et al., 2022).*

  - increase in heat-related mortality and morbidity for people and wildlife in Australia due to heatwaves (high confidence)
  - cascading, compounding and aggregate impacts on cities, settlements, infrastructure, supply-chains and services due to wildfires, floods, droughts, heatwaves, storms and sea level rise (high confidence)
  - inability of institutions and governance systems to manage climate risks (high confidence) (Lawrence et al., 2022).

An earlier report by Australia's Biodiversity and Climate Change Advisory Group summarised the potential impacts of climate change to marine and terrestrial species, habitats and ecosystems across Australia (Steffen et al., 2009). The 2009 report identified examples of observed changes in Australia's biota that were considered consistent with the emerging climate change 'signal', as genetic constitution, geographic ranges, lifecycles, populations, ecotonal boundaries, ecosystems, and disturbance regimes (Steffen et al., 2009). The report also stated:

- *"Biodiversity is one of the most vulnerable sectors to climate change".*
- *"Australia's biodiversity is not distributed evenly over the continent but is clustered in a small number of hotspots with exceptionally rich biodiversity", and that these "include the Great Barrier Reef, south-west Western Australia, the Australian Alps, the Queensland Wet Tropics and the Kakadu wetlands".*

Further, it was stated that "*many of the most important impacts of climate change on biodiversity will be the indirect ones at the community and ecosystem levels, together with the interactive effects with existing stressors* (Steffen et al., 2009)". *Future climate change (e.g., increased temperature and decreased, but more variable, rainfall) has the potential to have a range of impacts on ecological factors and threaten biodiversity in the Australian Mediterranean ecosystem (CSIRO, 2017).*

Extensive modelling and monitoring studies over the last twenty years provide considerable evidence that global climate change is already affecting and will continue to affect species (Hoegh-Guldberg et al., 2018); however, these impacts are likely to be highly species-dependent and spatially variable. The most frequently observed and cited ecological responses to climate change include species distributions shifting towards the poles, upwards in elevation and shifts in phenology (earlier and later autumn life-history events) (M. Dunlop et al., 2012). Climate change may not only change species distribution patterns but also life-history traits such as migration patterns, reproductive seasonality and sex ratios (Steffen et al., 2009).

Impacts of climate change such as altering temperature, rainfall patterns and fire regimes, are likely to lead to changes in vegetation structure across all terrestrial ecosystems within Australia (M. Dunlop et al., 2012; Steffen et al., 2009). Increases in fire regimes will impact Australian ecosystems altering composition structure, habitat heterogeneity and ecosystem processes. Changes in climate variability, as well as averages, could also be important drivers of altered species interactions, both endemic and invasive species (M. Dunlop et al., 2012). Climate change could result in significant ecosystem shifts, as well as alterations to species ranges and abundances within those ecosystems (Hoegh-Guldberg et al., 2018).

The 'loss of climatic habitat caused by anthropogenic emissions of greenhouse gases' has been listed as a key threatening process under the EPBC Act (DCCEEW, 2021). The threatening process consists of reductions in the bioclimatic range within which a given species or ecological community exists due to emissions induced by human activities of greenhouse gases (DCCEEW, 2021). The process is considered to have a continental distribution, including both terrestrial and marine areas. Ecosystems in which the process occurs include: alpine habitats, coral reefs, wetlands and coastal ecosystems, polar communities, tropical forests, temperate forests, and arid and semi-arid environments (DCCEEW, 2021).

Coral reefs were recognised by both IPCC and the Australian Government as being at risk of climate change (Lawrence et al., 2022; DCCEEW, 2021). Protected coral reef areas in Australia include those within World Heritage listed sites, such as Ningaloo Coast, Shark Bay, or the Great Barrier Reef. Climate change has been identified as a threat for each of these World Heritage areas, with potential risks to coral reef as well as other environmental values (such as marine fauna) within these ecosystems (IUCN, 2020b, 2020c, 2020a).

Climate variability and change has been identified as a threat to some EPBC Act protected species, including marine turtles, whales, seabirds, and migratory shorebirds:

- The Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia 2017) states that "climate change is of particular concern to marine turtles because it is likely to have impacts across their entire range and at all life stages. Climate change is expected to cause changes in dispersal patterns, food webs, species range, primary sex ratios, habitat availability, reproductive success and survivorship".
- The Conservation Management Plan for the Blue Whale (Commonwealth of Australia 2015a) states: climate change is expected to cause changes in migratory timing and destinations, population range, breeding schedule, reproductive success and survival of baleen whales, including blue whale species and subspecies".
- The Wildlife Conservation Plan for Seabirds (Commonwealth of Australia 2020) states that "consequences to seabirds could include negative impacts from an increase in extreme weather events, reduced or changed prey abundance and distribution, and decrease in nesting habitat".

- The Wildlife Conservation Plan for Migratory Shorebirds (Commonwealth of Australia 2015c) states that 'such changes have the potential to affect migratory shorebirds and their habitats by reducing the extent of coastal and inland wetlands or through a poleward shift in the range of many species".
- The Recovery Plan for the Southern Right Whale (DCCEEW, 2024a) states that 'modelling the links between krill and whale population dynamics with climate change, including changes in ocean temperature, primary productivity, and sea ice, suggests future ocean conditions are likely to have a negative impact on krill populations and in association the baleen whale species that feed on them.'

The North-west Marine Parks Network Management Plan 2018 (DNP, 2018) identifies climate change as a pressure that may impact marine park values. The management plan states that "the impacts of climate change on the marine environment are complex and may include changes in sea temperature, sea level, ocean acidification, sea currents, increased storm frequency and intensity, species range extensions or local extinctions, all of which have the potential to impact on marine park values" (DNP, 2018).

Within the Marine Bioregional Plan for the NWMR (DSEWPaC, 2012), pressures related to climate change are assessed as 'of potential concern' for species of marine turtle, inshore dolphins, sawfish, sea snakes, whale shark, dugong, and seabird and shorebird, as well as the KEFs and shipwrecks known to occur in the NWMR.

Management and Abatement

Woodside's requirements for GHG emissions in the operate phase is applied to continue the identification and evaluation of emission reduction opportunities. These include application of the Emissions and Energy Management Procedure (Section 7.2.7.6) and the Production Optimisation and Opportunity Management Procedure (POOMP) (Section 7.2.7.6.1) to enable continued reduction of direct GHG emissions to ALARP. This includes a system of continual review and improvement of key emissions sources from the Okha FPSO facility (which includes KGP operations), and ongoing identification, screening and implementation of opportunities to reduce emissions.

During operate phase, Woodside's Flare Management Framework and Woodside's Methane Management Strategy will also be implemented. This includes setting of annual flare and emissions targets for the asset, and annual execution of asset-specific Methane Action Plans, with discrete activities consistent with the principles of OGMP 2.0 and Oil and Gas Climate Initiative (OGCI) Aiming for Zero Methane emissions initiative to reduce emissions to ALARP.

Woodside Climate Targets

At a portfolio level, Woodside is targeting a reduction of net equity Scope 1 and 2 GHG emissions of 15% by 2025 and 30% by 2030, with an aspiration of net zero by 2050 or sooner.[28],[29] There is no direct mapping of these corporate level Scope 1 targets to the Okha FPSO facility operations covered in this EP. The net equity Scope 1 and 2 emissions reduction targets are relative to a starting base of 6.32 $MtCO_2$-e which is representative of the gross annual average equity Scope 1 and 2 GHG emissions over 2016-2020. This starting base may be adjusted (up or down) for potential equity changes in producing or sanctioned assets with a final investment decision prior to 2021. Net equity emissions include utilisation of carbon credits as offsets.

Woodside also supports customers to reduce their emissions via the investment in new energy products and lower-carbon services, including the progression of corporate Scope 3 targets[30] that apply across Woodside's portfolio including:

- Scope 3 Investment Target: Woodside has a Scope 3 investment target aiming to invest $5 billion in new energy products and lower carbon services by 2030[31]
- Scope 3 Emissions Abatement Target: Woodside has a Scope 3 emissions abatement target, to indicate the potential abatement impact of these products and services upon customer Scope 1 or 2 emissions. This target it to

[28] This means net equity for the 12-month period ending 31 December 2025 are targeted to be 15% lower than the starting base.

[29] This means net equity emissions for the 12-month period ending 31 December 2030 are targeted to be 30% lower than starting base.

[30] Scope 3 targets are subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance. Potentially includes both organic and inorganic investment. Timing refers to financial investment decision, not start-up/operations.

[31] Includes pre-RFSU spend on new energy products and lower carbon services that can help our customers decarbonise by using these products and services. It is not used to fund reductions of Woodside's net equity Scope 1 and 2 emissions which are managed separately through asset decarbonisation plans.

take final investment decisions on new energy products and lower carbon services by 2030, with total abatement capacity of 5 Mtpa CO_2-e[32], [33]

The SGM[34] requires Australia's highest GHG emitting facilities to reduce or limit their emissions in line with Australia's emission reduction targets of 43% below 2005 levels by 2030 and net zero by 2050. Direct and indirect GHG emissions associated with Okha FPSO facility operations and onshore processing of Okha gas, as well as transportation and end-use are subject to the SGM as part of the broader network of Woodside's offshore oil and gas facilities tied to KGP under the North West Shelf Project facility. Net emissions from this portfolio of assets must be kept below a specified limit or baseline. Gas produced from the CWLH reservoirs accounts for less than 0.01% of gas processed onshore at KGP as part of the North West Shelf Project facility.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[35]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
Okha FPSO (when disconnected) and other vessels comply with Marine Order 97 (Marine Pollution Prevention – Air Pollution).	F: Yes. CS: Minimal cost. Standard practice.	Marine Order 97 is required under Australian regulations; implementation is standard practice for commercial vessels as applicable to vessel size, type and class. Marine Order 97 reduces air pollution from vessels.	Control based on legislative requirements – must be adopted.	C 9.1

[32] The customers for these products and services may be the same as the customers of our oil and gas business, directly substituting their energy for new products or directly abating the associated emissions. There may also be customers of the new products and services, without also being customers of oil and gas.

[33] Includes binding and non-binding opportunities in the portfolio, subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance.

[34] Further information about the SGM and SGM Baselines can be found at the Clean Energy Regulator website: https://cer.gov.au/schemes/safeguard-mechanism and https://cer.gov.au/schemes/safeguard-mechanism/safeguard-baselines

35 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[35]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
National Greenhouse and Energy Reporting Scheme (NGERS) and National Pollutant Inventory (NPI) reporting – estimation of GHG, energy and criteria pollutants.	F: Yes. CS: Minimal cost. Standard practice.	Required under the national framework for reporting and dissemination of information related to emissions, hazardous wastes, greenhouse gas emissions, greenhouse gas projects, energy consumption and energy production, to meet the objectives and outcomes: • maintenance and improvement of air and water quality, minimisation of environmental impacts associated with hazardous wastes; and an improvement in the sustainable use of resources • act as the single framework to inform policy, meet reporting requirements, avoid duplication, and to ensure that facility net greenhouse gas emissions are managed within applicable baselines.	Control based on legislative requirements – must be adopted.	C 9.2

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[35]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Apply for and manage net direct and indirect GHG emissions to within the relevant baseline under the *National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015*	F: Yes CS: Minimal Cost. Standard Practice.	Requirement under the national framework for reporting of information related to GHG emissions. The Safeguard Mechanism requires operators to offset carbon emissions in excess of the relevant baseline using appropriate credit units. This control applies to the Petroleum Activity as part of a broader network of facilities covered under other EPs and that fall under the NWS Project facility for management of SGM obligations.	Control based on legislative requirements – must be adopted.	C 9.3
Good practice				
Forecast, measure, monitor and/or estimate facility fuel and flare emissions (in accordance with NGERS/NPI) to inform optimisation management practices and minimise environmental impact of direct and indirect emissions associated with the Petroleum Activity.	F: Yes. CS: Minimal cost. Standard practice.	Minimises environmental impact of emissions through planning, ongoing review, governance and optimisation. It combines with good operating practice to maximise production and reduce fuel and flare emissions to manage cost, which improves energy intensity (e.g., cleaner production), optimising emissions from the Petroleum Activity. Fuel and flared gas are potential product streams. As such, Woodside applies a short- and long-term optimisation and investment management framework to identify and prioritise enhancement opportunities which includes improvements	Control is WMS requirement – must be adopted.	C 9.4

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[35]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
		through energy efficiency and reduced fuel usage. Annual fuel target setting and monthly review of performance is completed for Okha.		
Implement relevant methane management at Okha FPSO.	F: Yes CS: Some cost associated with implementation. Can be managed by proving technology application and process at onshore facilities and applying learnings, where appropriate, to Okha FPSO.	Implement relevant methane management measures at Okha FPSO including: • Safety-driven LDAR - start-up leak checks (existing) • Operational gas detection fixed and mobile, to identify methane sources (existing) • Okha FPSO methane inventory in place 2025 (planned) • Conduct routine methane drone surveys on Okha FPSO, beginning in 2026 and three-yearly thereafter to: - Verify NGERS-based methane estimates - Identify opportunities for mitigation, actioned in accordance with the POOMP (Section 7.2.7.6.1).	Proportional to Okha FPSO measured minimal methane profile and aligned with Woodside's methane management approach. Existing practices are reasonably practicable and introducing further monitoring via drone survey provides confidence in continued emissions performance without disproportionate effort (e.g. annual surveys) given current measured methane volumes are minimal. Annual methane survey is grossly disproportionate to benefit gained due to quantififed and measured minimal methane emissions from Okha facility.	C 9.5
Contracting strategy and evaluation for hire of support vessels includes consideration of vessel emissions parameters and low carbon/alternate fuels.	F: Yes. CS: Fuel cost over the five-year contract is considered in the evaluation of responses, allowing for competitive	Minimises costs and emissions through eco-efficiency approach recognising cost of fuel and carbon	Control effectively allocates a cost to emissions to recognise that higher emitting fuel sources with	C 9.6

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[35]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
	consideration of low carbon alternatives.	emissions over the contract term.	other lower operating costs do not represent overall best value.	
Woodside supports customers to reduce their emissions via the investment in new energy products and lower carbon services, including the progression of corporate Scope 3 targets that apply across Woodside's portfolio including the following: Scope 3 Investment Target[36]: • Woodside has a Scope 3 investment target aiming to invest $5 billion in new energy products and lower carbon services (non LNG) by 2030[37]. Scope 3 Emissions Abatement Target: • Woodside has a Scope 3 emissions abatement target, to indicate the potential abatement impact of these products and services upon customer Scope 1 or 2 emissions. This target is to take final investment decisions on new energy products and lower carbon services by 2030, with total abatement capacity of 5 $MtCO_2$-e per year38, [39].	F: Yes CS: Cost as reflected in target	Supports customers to reduce their scope 1 and 2 emissions	Proportional at a Woodside corporate level	C 10.1
Through its portfolio, Woodside will work with the natural gas value chain to	F: Yes CS: Minimal cost associated with	Supports customers to reduce their scope 1 and 2 emissions	Proportional at a Woodside corporate level	C 10.2

[36] Scope 3 targets are subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance. Potentially includes both organic and inorganic investment. Timing refers to financial investment decision, not start-up/operations.

[37] Includes pre-RFSU spend on new energy products and lower carbon services that can help our customers decarbonise by using these products and services. It is not used to fund reductions of Woodside's net equity Scope 1 and 2 emissions which are managed separately through asset decarbonisation plans.

[38] The customers for these products and services may be the same as the customers of our oil and gas business, directly substituting their energy for new products or directly abating the associated emissions. They may also be customers of the new products and services, without also being customers of oil and gas.

[39] Includes binding and non-binding opportunities in the portfolio, subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[35]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
reduce emissions in third party systems (e.g. regasification and distribution), such as through: • the adoption and promotion of the Methane Guiding Principles, • sharing knowledge of methane reduction via Australian industry forums and other companies in the natural gas value chain • Advocacy for stable policy frameworks that reduce carbon emissions. Annual review of the implementation and outcomes of these measures	collaboration and advocacy			
Professional judgement – eliminate				
Eliminate flaring by venting un-combusted hydrocarbons.	F: No. Routine hydrocarbon venting is not considered good industry practice, as unburnt methane poses potential for greater environment impact compared to combustion emissions. Non-routine flaring is a key safety feature on the Okha FPSO facility. Removing the ability to flare hydrocarbons may result in unacceptable safety risks on the facility. CS: Not assessed, control not feasible.	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional judgement – substitute				
None identified.				
Professional judgement – engineered solution				
Maintain flare system to maximise efficiency of combustion and minimise venting, incomplete combustion waste products and smoke emissions.	F: Yes. CS: Minimal cost. Standard practice.	Flare tip integrity and ignition system functionality minimises potential for venting, incomplete combustion waste products and smoke emissions.	Control is WMS requirement – must be adopted	C 9.7

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[35]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Installation of flare gas recovery systems to reduce emissions entering the atmosphere from flaring	F: Yes CS: Significant additional cost associated with the design and installation of flare gas recovery systems, including significant retrofitting of multiple stages of compression systems, coupled with associated ancillaries, valving and piping, platform modification and weight considerations. The safe addition of required rotating equipment also poses significant production sacrifice and potential domestic gas supply impacts due to the initial design layout, space and safety constraints.	Small to negligible environmental benefit from reducing atmospheric emissions from non-routine flaring at the Okha FPSO facility. The environmental benefit gained from the recovery of flaring emissions would be limited to only a portion of flare system flows due to process safety constraints and flare system operation over a wide design envelope (associated with flow and pressure variations and related flowline integrity management). Furthermore, required retrofitting of multiple stages of compressions (e.g. for LP/HP streams) would offset any environmental benefits through increased power generation emissions. The retrofitting interaction with the safety critical flare system and continued operation of gas compression would also increase platform safety risks.	Given the increased safety risk and the very low, if any, environmental benefit provided when increased power generation emissions are taken into consideration, the installation of flare gas recovery systems is considered grossly disproportionate to the environmental benefit it would provide.	No
Manage vessel speed to reduce fuel combustion.	F: Yes. CS: Standard practice.	Reducing fuel combustion reduces atmospheric emissions.	Benefits outweigh cost/sacrifice.	C 9.8

Discussion of ALARP

Atmospheric Emissions

On the basis of the environmental risk assessment outcomes and the use of the relevant tools appropriate to decision type A, Woodside considers the adopted controls appropriate to manage the impacts of the Petroleum Activity emissions. As no reasonable additional/alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, the impacts and risks are considered ALARP.

GHG Emissions

Risk Based Analysis

Application of Woodside's Risk Management Procedures, implementation of the Emissions and Energy Management Procedure and Production Optimisation and Opportunity Management Procedure reduces GHG emissions risk to

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)[35]***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
ALARP (Section 7.2.7.6). This includes a system of continual review and improvement of key emissions sources from NWS assets as an integrated system, including Okha, e.g. flaring reduction was implemented, resulting in reduction of flared gas of 140 tpa (395 t CO_2-e). Further opportunities are implemented at KGP to reduce indirect emissions associated with production of NRC and combined emissions from the NWS assets. <u>Societal Values</u> Consultation was undertaken for this program to identify the views and concerns of relevant persons, as described in Section 5. No specific concerns around air emissions, resulting in changes to air quality and greenhouse gas emissions, were identified through this process. ***ALARP Statement:*** On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type (i.e., Decision Type A and B for direct and indirect emissions respectively), Woodside considers the adopted controls appropriate to manage GHG emissions from the Petroleum Activity (including indirect emissions sources) that Woodside can practicably influence, during the five year term of this EP. The adopted controls meet legislative requirements, including: • Marine Order 97 for support vessels • NGERS and NPI reporting for direct emissions attributed to the Petroleum Activity • National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015. Safeguard facilities that exceed their baseline must manage their excess emissions, such as by surrendering acceptable quality offsets suitably classified as Australian Carbon Credit Units (ACCUs) or Safeguard Mechanism Credits (SMCs) which is the other eligible compliance unit. Each are representative of one tonne of CO_2-e per credit, so that net emissions under the scheme are brought in line with the baseline. So that sufficient credits are available and that there is a means to comply, safeguard facilities that exceed their baseline are able to buy Government-held ACCUs from the Clean Energy Regulator via the Cost Containment Measure implemented as part of recent reforms. SGM obligations for the North West Shelf Project facility (including the minor contribution from Okha) as defined under SGM will be met by emissions abatement via operational controls as first preferenc. Options to manage residual net emissions in excess of baseline include surrendering ACCUs or SMCs, applying to become a trade-exposed baseline-adjusted facility, applying to borrow baseline from the following year or applying for a multi-year monitoring period. Surrendered carbon credits may be generated from Woodside projects, purchased from the market or purchased from the Government through the Cost-Containment Mechanism. Oil production accounts for more than 99% of total production from Okha with the gas production only a minor contributor to GHG emissions. Woodside is implementing programs at a corporate level to manage indirect emissions associated with customer use of oil and gas from Okha FPSO and other facilities, As no reasonable additional/alternative controls were identified that would further reduce the impacts without grossly disproportionate sacrifice, GHG emissions from the Petroleum Activity (including indirect emissions sources) that Woodside may practicably influence are considered ALARP.				

Demonstration of acceptability
Acceptability Statement: Atmospheric Emissions Given the adopted controls, atmospheric emissions represent a negligible impact that is unlikely to result in greater than isolated impacts as the Operational Area is located in an unpopulated area approximately 119 km north-west of Dampier. The adopted controls are considered good oil-field practice/industry best practice and meet requirements of Australia Marine Orders and NGERS and NPI reporting. The potential impacts and risks are considered broadly acceptable if the adopted controls are implemented. Therefore, Woodside considers the adopted controls appropriate to manage the impacts and risks of atmospheric emissions to a level that is broadly acceptable. **GHG emissions** To assess and determine that impacts from GHG emissions will be of an acceptable level, Woodside considered corporate commitments, principles of Ecologically Sustainable Development, Company Values and Societal Values.

Principles of Ecologically Sustainable Development

Giving consideration to economic development that safeguards the welfare of future generations, the Petroleum Activity is considered to align with the following core objectives of ESD by:

- Committing to management and mitigation measures for GHG emissions within operational control of the facility, given the uncertainty about future climate change trajectories.
- Committing to mitigation measures for indirect GHG emissions that are controlled or influenced by operator and connected to the operations of the Pyrenees facility.
- Continue to provide fuel for global markets and pursue the development of lower carbon energy sources with reference to the UN Sustainable Development Goal 7, Affordable and Clean Energy

Internal Context

The Petroleum Activity is consistent with Woodside corporate polices, culture, processes, standards, structure and systems as outlined in the Demonstration of ALARP and Environmental Performance Outcomes, including:

- Woodside Environment and Biodiversity Policy (Appendix A)
- Woodside Risk Management Policy (Appendix A)
- Woodside Climate Policy (Appendix A)
- Woodside being a signatory to the Aiming for Zero Methane Emissions Initiative, the Oil and Gas Methane Partnership 2.0 and the World Bank's Zero Routine Flaring by 2030 Initiative for oil projects, which are voluntary, international multi stakeholder partnerships between industry and non-industry organisations.
    1. Deployment is applied consistent with OGMP2.0 principles on a risk-based approach for the most effective deployment of resources and effort to identify and reduce streams which make the most proportional difference
- WMS requirements such as the GHG emissions and Energy Management Procedure, POOMP (Section 7.2.7.6). This is achieved by implementing tools to identify, evaluate, implement and review emissions reductions projects.

External Context

GHG emissions are a global concern, and as such Woodside has undertaken an impact assessment of GHG associated with the Petroleum Activity and identified key measures to manage GHG emissions to an acceptable level.

According to Wood Mackenzie Energy Research Consultancy, LNG from Woodside operated facilities is amongst the lowest carbon intensity in the world delivered into North Asia[40].

The global consensus on climate change led to the implementation of the Paris Agreement. The aim of the Paris Agreement, as stated in the Article 2.1(a) is to hold the increase in global average temperature to well below 2°C above pre-industrial levels. The Agreement also aims to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change.

Paris Agreement text extract[41]:

"Article 2

1. This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

(a) Holding the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognising this would significantly reduce the risks and impacts of climate change;

This was reaffirmed in December 2023 in the COP28 decision text on the first global stocktake[42]. The text further recognised that the transition away from fossil fuels in energy systems is to be done in a just, orderly and equitable manner accelerating action in this critical decade, so as to achieve net zero by 2050 in keeping with the science[43]. It also recognises transitional fuels can play a role in facilitating the energy transition while ensuring energy security[44].

The Paris Agreement establishes a framework where countries make nationally determined contributions to manage and reduce their own emissions.

Australia has ratified the Paris Agreement and has set a target to reduce emissions by 43% below 2005 levels by 2030 and to reach net-zero emissions by 2050. Australia's emissions projections under a 'with additional measures' scenario is projected to be 42.6% below 2005 levels by 2030, the next waypoint to net zero emissions by 2050 (DCCEEW 2024b)

The Petroleum Activity indirect onshore gas processing is part of the North West Shelf Project SGM facility and is also subject to complying with the SGM to manage net emissions under the scheme in line with Australia's emission reduction targets of 43% below 2005 levels by 2030 and net zero by 2050.

Australia's Long-Term Emissions Reduction Plan (DISER, 2021) presents Australia's whole-of-economy plan to achieving net zero emissions by 2050 with priority technologies estimated to achieve 85% reduction and yet-to-be identified emerging technologies abating the remainder. The plan identified LNG as a critical transition fuel and

Demonstration of acceptability

expects growth in the sector with higher use in 2030 than it is today but acknowledging that growth will depend on the preferences of customers and the pace of international action (DISER, 2021).

Climate science has drawn a link between cumulative emissions of greenhouse gases and global temperature levels. The link between cumulative emissions and temperature levels allows a carbon budget to be calculated. This is the remaining amount of net emissions (i.e., all global sources of emissions minus all global sinks of emissions) that can occur before today's concentration of greenhouse gases increases to the concentration associated with potential temperature outcomes.

Woodside considers that a stable energy transition will be one in which energy is affordable and reliable, as well as lower-carbon. The Petroleum Activity will provide an incremental volume of hydrocarbons to Australian and international markets during its estimated remaining field life (to 2031). Woodside considers that this development is aligned with their goals for supporting the energy transition and is compatible with the Paris Agreement goal to limit global warming to below 2°C.

Woodside considers our role in providing energy as core to our contribution to a just energy transition. UN Sustainable Development Goal 7 is to "ensure access to affordable, reliable, sustainable and modern energy for all". The Petroleum Activity will provide an incremental volume of hydrocarbons to Australian and international markets during its estimated remaining field life. Woodside considers that this development is aligned with the goals for supporting the energy transition and is compatible with the Paris Agreement goal.

Woodside's support of customers to reduce their greenhouse gas emission through our corporate Scope 3 targets focuses on the natural gas value chain as this is an area we believe we have greatest influence with our customers. Additionally, our global hydrogen and ammonia opportunities are intended to bring lower carbon new energy alternatives, which our customers may use to displace oil (e.g. marine fuel).

Through these corporate Scope 3 targets Woodside is implementing programs at a corporate level to manage indirect emissions associated with customer use of oil from the Okha FPSO facility.

Alongside our corporate scope 3 targets, Woodside also supports initiatives to reduce methane emissions. Woodside is a signatory to several global initiatives which are complementary to our corporate approach to methane emissions management, which include OGMP (2024), Oil and Gas Climate Initiative Aiming for Zero Methane Emissions (OGCI Near-Zero) and the Methane Guiding Principles (MGP, 2022), which are voluntary, international multi-stakeholder partnerships between industry and non-industry organisations. Woodside will pursue compliance with these commitments in line with the control measures (C.9.5) (refer to Internal Context above, and key control measure.

External context – stakeholder expectations and feedback

All feedback, claims or objections from Relevant Persons has been appropriately responded to and addressed (see Appendix F), and controls proposed have been assessed in the EP.

Other Requirements (Includes Laws, Polices, Standards and Conventions)

Legislation and other requirements considered relevant for this aspect, and a demonstration of how these requirements are met, are described below.

Requirement	Demonstration
Marine Order 97 Gives effect to Annex VI of MARPOL 73/78	The requirements of Marine Order 97 are incorporated into the key control measures.
National Greenhouse and Energy Reporting (NGER) Scheme Annual GHG reporting for facilities	The requirements of NGERS reporting scheme are incorporated into the key control measures.
NGERS (Safeguard Mechanism) Rule 2015	The requirements of NGERS Safeguard Mechanism are incorporated into the key control measures.

[40] *Export from Wood Mackenzie LNG Carbon Emissions Tool available from: https://www.woodside.com/docs/default-source/our-business---documents-and-files/pluto---documents-and-files/wood-mackenzie-lng-carbon-e.*

[41] *Paris Agreement: https://unfccc.int/files/meetings/paris_nov_2015/application/pdf/paris_agreement_english_.pdf.*

[42] *FCCC/PA/CMA/2023L.17 (Draft decision distributed 13 December 2023) First global stocktake text extracts https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf (Section I, Clause 3).*

[43] *FCCC/PA/CMA/2023L.17 (Draft decision distributed 13 December 2023) First global stocktake text extracts https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf (Section II, Subsection A, Clause 28 (d)).*

[44] *FCCC/PA/CMA/2023L.17 (Draft decision distributed 13 December 2023) First global stocktake text extracts https://unfccc.int/sites/default/files/resource/cma2023_L17_adv.pdf (Section II, Subsection A, Clause 29).*

Demonstration of acceptability	
National Pollutant Inventory (NPI) Reporting Annual air pollutant reporting	The requirements of annual NPI reporting are incorporated into the key control measures.
Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia 2015a) • Management action A3.1: Understand impacts of climate variability and change National Recovery Plan for the Southern Right Whale (DCCEEW, 2024a) • Action area A3.1: Understand impacts of climate variability and anthropogenic climate change on the species biology and population recovery. Recovery Plan for Marine Turtles in Australia (Commonwealth of Australia 2017) • Management action A2.1: Continue to meet Australia's international commitments to address the causes of climate change • Management action A2.1: Adaptatively manage turtle stocks to reduce risk and build resilience to climate change and variability	As described above, the predicted atmospheric and GHG emissions from the Petroleum Activity are negligible, with no link to climate change impacts on Australian or International receptors. Therefore, the Petroleum Activity is not considered to be inconsistent with the Recovery Plans and Conservation Advice.
Ministerial Statement 1233[45] and arrangements under the EP Act Part V licences. Murujuga Rock Art Strategy and Monitoring Program (MRAS/MRAMP) Murujuga National Park Management Plan 78	The requirements to maintain onshore facility approvals and associated reporting obligations to demonstrate compliance with relevant ministerial statement conditions and licensing arrangements under Part V of the EP Act. The requirement to monitor the outcomes of MRAS/MRAMP, and assess relevance to this activity as part of the implementation strategy of this EP. The requirement to maintain compliance with relevant commitments and obligations under the Murujuga National Park Management Plan 78 and relevant KGP-facility Cultural Heritage Management Plans. The predicted onshore atmospheric and GHG emissions from the Petroleum Activity are considered negligible, with no link to climate change impacts on Australian or International receptors. Gas from the CWLH reservoirs comprise <0.01% of total gas processed at KGP. The Petroleum Activity is not considered to be inconsistent with the conditions of the relevant ministerial statement for KGP, or the objectives and outcomes of MRAS/MRAMP.

Greenhouse Gas Emissions

On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts/risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

Indirect GHG emissions associated with the Petroleum Activity are managed to an acceptable level by meeting legislative requirements, industry codes and standards, applicable company requirements, and industry guidelines, and these have been adopted as key controls.

The adopted controls are considered good oil-field practice/industry best practice and are consistent with Woodside's internal requirements. The potential impacts are considered acceptable if ALARP is demonstrated. The predicted

[45] *https://www.epa.wa.gov.au/sites/default/files/1MINSTAT/1727%20Statement%201233%20for%20publishing%20North%20West%20Shelf_0.pdf*

Demonstration of acceptability
GHG emissions associated with the Okha FPSO facility are considered below the acceptable levels and will not materially or substantially contribute to Australia's net GHG emissions or net Global GHG emissions levels.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 9a Okha FPSO facility GHG emissions shall assist in NWS Project Facility achieving GHG reductions under reformed Safeguard Mechanism (inclusive of legislated net zero emissions by 2050). EPO 9b Air quality from direct atmospheric emissions will be limited to planned impacts and activities described as part of the Petroleum Activity EPO 9c Minimise GHG emissions from vessels through efficient fuel usage and consideration of fuel types utilised[46].	C 9.1 Okha FPSO and contract vessels complying with Marine Order 97 (Marine pollution prevention – air pollution).	PS 9.1 Okha FPSO and support vessels contracted whose practices comply with Marine Order 97 as applicable to vessel size, type and class.	MC 9.1.1 Marine verification records.
	C 9.2 NGERS and NPI reporting – estimation of greenhouse gas, energy and criteria pollutants.	PS 9.2 Okha FPSO facility and NWS Project activity emissions reported annually in accordance with NGERS and NPI.	MC 9.2.1 NGERs and NPI reporting records.
	C 9.3 Apply for and manage net direct and indirect NWS Project GHG emissions to within the relevant baseline under the National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015.	PS 9.3 Manage net direct and indirect NWS Project GHG emissions to within the accepted baseline, under the National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015.	MC 9.3.1 Records demonstrate implementation.
	C 9.4 Forecast, measure, monitor and or estimate facility fuel and flare emissions (in accordance with NGERS/NPI and WMS procedures named in Section 7.2.7.6) to inform optimisation management practices and minimise environmental impact of emissions.	PS 9.4.1 Integrity will be managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE Technical Performance Standard(s) to prevent environment risk related damage to SCEs for: P31 – Environmental Emissions Monitoring and Controls, to: • provide means of detection of environmental releases, emissions and discharges to prevent MEEs from manifesting over time, and/or as required to assure compliance monitoring and reporting equipment. • describes monitoring gas flared and fuel consumed.	MC 3.4.1 Refer to Section 6.6.2

[46] *Other upstream indirect emissions such as those associated with helicopter travel and suppliers are not considered material*

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		• describes function and maintenance requirement of flare re-ignition panel. E.g. Maintaining functionality of flare system and fuel flow metering equipment and estimation techniques to meet applicable criterion for reporting under NGERS Determination and NPI.	
		PS 9.4.2 Fuel targets tracked, as required by WMS procedures named in Section 7.2.7.7	MC 9.4.1 Records demonstrate performance against annual fuel targets.
		PS 9.4.3 Implement Production Optimisation and Opportunity Management Procedure for the Okha FPSO facility as a component of NWS operations.	MC 9.4.2 Records demonstrate annual process is applied.
		PS 9.4.5 Direct emissions from the operation of Okha FPSO facility are limited to 80 $ktCO_2e$ p.a.	MC 9.4.3 Records demonstrate emissions do not exceed this total.
	C 9.5 Implement relevant methane management measures at Okha FPSO.	PS 9.5 Implement relevant methane management measures at Okha FPSO including: • Safety-driven LDAR - start-up leak checks (existing) • Operational gas detection fixed and mobile, to identify methane sources (existing) • Okha FPSO methane inventory in place 2025 (planned) • Conduct routine methane drone surveys on Okha FPSO, beginning in 2026 and three-yearly thereafter to: - Verify NGERS-based methane estimates - Identify opportunities for mitigation, actioned in accordance with the	MC 9.5.1 Records demonstrate relevant methane management measures are identified, assessed and implemented.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		POOMP (Section 7.2.7.6.1).	
	C 9.6 Contracting strategy and evaluation for hire of support vessels includes consideration of vessel emissions parameters and low carbon/alternative fuels.	PS 9.6 Evaluation of tenders for support vessels considers emissions parameters.	MC 9.6.1 Records demonstrate that emissions were considered in tender evaluations.
	C 9.7 Maintaining flare system to maximise efficiency of combustion, minimise venting, incomplete combustion waste products and smoke emissions.	Refer to PS 9.4.1	MC 3.4.1 Refer to Section 6.6.2
	C 9.8 Manage vessel speed to reduce fuel combustion.	PS 9.8 Vessel speed will be managed to reduce fuel consumption where practicable.	MC 9.8.1 Records demonstrate speed of support vessels managed
EPO 10 Woodside will support customers to reduce their GHG emissions.	C 10.1 Woodside supports customers[47] to reduce their emissions via the investment in new energy products and lower carbon services, including corporate targets that apply across Woodside's portfolio including the following: Scope 3 Investment Target[48] • Invest $5 billion in new energy products and lower carbon services (non LNG) by 2030[49]. Scope 3 Emissions Abatement Target[48]	PS 10.1 Woodside will progress its Scope 3 investment and emissions targets, aligned with stated timeframes	MC 10.1.1 Progress against targets reported in the relevant annual Woodside disclosures to relevant industry standards and/or requirements. This includes an estimate of abated emissions from currently sanctioned projects.

[47] The customers for these products and services may be the same as the customers of our oil and gas business, directly substituting their energy for new products or directly abating the associated emissions. They may also be customers of the new products and services, without also being customers of oil and gas.

[48] Scope 3 targets are subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance. Potentially includes both organic and inorganic investment. Timing refers to financial investment decision, not start-up/operations.

[49] Includes pre-RFSU spend on new energy products and lower carbon services that can help our customers decarbonise by using these products and services. It is not used to fund reductions of Woodside's net equity Scope 1 and 2 emissions which are managed separately through asset decarbonisation plans.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	• Take final investment decisions on new energy products and lower carbon services by 2030, with total abatement capacity of 5 Mtpa CO_2-e[50].		
	C 10.2 Woodside will work with the natural gas value chain to reduce emissions in third party systems (e.g. regasification and distribution)	PS 10.2.1 Woodside to implement the following: • sharing knowledge via Australian industry forums and other companies in the natural gas value chain through; – the adoption and promotion of global methane frameworks such as the Methane Guiding Principles and Oil and Gas Decarbonisation Charter – advocacy for stable policy frameworks that reduce carbon emissions. Annual review of the implementation and outcomes of these measures, this includes consideration of current or new industry forums, initiatives and natural gas value chain participants.	MC 10.2.1 Records demonstrate that listed actions have been undertaken and are effective.

[50] *Includes binding and non-binding opportunities in the portfolio, subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance.*

6.6.8 Routine and non-routine light emissions

Context		
FPSO lighting – Section 3.6.8.1 Flare system – Section 3.6.2.2 Vessels – Section 3.8	Protected species – Section 4.6 Cultural values and heritage – Section 4.9	Stakeholder consultation – Section 5

Impact evaluation summary

Source of impact	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Light generated from operational and navigational lighting on the Okha FPSO facility	-	-	-	-	X	X	A	F	-	-	LCS GP PJ	Broadly Acceptable	EPO 11 EPO 2
Light generated during flaring from the Okha FPSO facility	-	-	-	-	X	X							
Light generated from support activities such as the use of ROVs and operational and navigational lighting on vessels	-	-	-	-	X	X							

Description of source of impact

Routine light emissions include light sources that alter the ambient light conditions. The light sources associated with the Petroleum Activity are operational and navigational lighting of the FPSO, non-routine flaring from the FPSO, and support activities such as the use of ROVs/AUVs and operational and navigational lighting onboard vessels.

Okha FPSO facility (operational lighting and flaring)

Operational lighting on the Okha FPSO facility is used to ensure a safe working environment to support 24-hour operations and to communicate the presence of the FPSO to other marine users (i.e. navigation lights). This allows the FPSO to meet sea and air safety safe working and navigational requirements. This lighting is typically bright white (i.e. metal halide, halogen, fluorescent lights) and is not dissimilar to lighting used for other offshore activities, including fishing and shipping. As lighting is required to safely operate the facility, it cannot reasonably be eliminated.

Flaring is only expected to occur during specific maintenance equipment events, specific process changes or process upset conditions, system depressurisation and emergency events, or in preparation for Okha FPSO facility disconnection (see Section 3.6.2.2). In most scenarios, flaring is expected to be from the LP flare. However, the HP will be used when a full system depressurisation is required or under emergency scenarios.

The distance to the horizon at which components of the Okha FPSO facility or support vessels are directly visible can be estimated using this formula:

$$\text{horizon distance} = 3.57 \times \sqrt{\text{height}}$$

In this formula, 'horizon distance' is the distance to the horizon at sea level in kilometres, and 'height' is the height above sea level of the light source in metres. Using this formula, with the top of the flare tower (the highest point of the facility) at approximately 98 m above sea level and deck lighting at approximately 14 m, the maximum distance to the horizon at which the flare tower and deck lighting is directly visible at sea level is approximately 35 km and 14 km, respectively.

Light emissions associated with the Dorado FPSO were modelled as part of the accepted Santos Dorado Offshore Project Proposal (Santos, 2022) to consider visibility, radiance and worst-case flaring events. This assessment is considered a suitable and conservative surrogate for the light emissions of the Okha FPSO facility because:

- the deck height for operational lighting is similar
- the flaring tower height of the Dorado FPSO (110 m) is approximately 12 m higher than the Okha flare tower
- the receiving environment for the Okha FPSO facility has a minor elevation equivalent to that of the Dorado FPSO receiving environment.

The Dorado light assessment used satellite data of known maintenance (i.e. worst case) flaring events at existing LNG facilities to obtain a base radiance value for a flare before applying it to the model. This is considered a more reliable and conservative approach than flare gas rate.

Two scenarios were modelled for the Dorado FPSO, specifically:

- operational lighting with no flaring
- operational lighting including flaring.

The Dorado FPSO lighting design and luminaire specifications were applied to the three-dimensional (3D) ILLUMINA artificial light at night model (Santos, 2022). The ILLUMINA model predicts both the extent of visible light and radiance (light received in a specific area). In this assessment, light was described in terms of radiance, which describes the light received in a specific area and is provided in the units of $W/m^2/sr$, where W = watts, m^2 = metres squared and sr = steradian (unit of solid angle, equal to the angle at the centre of a sphere subtended by a part of the surface equal in area to the square of the radius).

In the absence of any published or generally accepted units or scale for measuring the impact of artificial light on wildlife, moonlight was selected as a proxy (considered representative of ambient light levels marine fauna are adapted to). The light model output was converted to units of full moon equivalents to attempt to give the radiance output some biological relevance and to aid interpretation in an environmental impact assessment context. The light emissions are considered to have reduced to ambient when radiance is less than the equivalent of 0.01 (1/100th) of one full moon.

In the non-flaring scenario for the Dorado FPSO, the model results show radiance reduces to ambient (less than 0.01 full moon equivalent) at 17.7 km from the source. In the flaring scenario, the flare is no longer directly visible at 42.4 km, when the flare drops below the horizon. At this distance, the radiance is equivalent to 0.25 full moons. As the flare drops below the horizon, radiance declines rapidly and is no longer visible.

Lighting from the Okha FPSO facility (flare and navigational lighting) is not expected to be visible beyond 42.4 km from the Okha FPSO facility, based on the Dorado light assessment, referenced in the paragraphs above. It should be recognised that this is a conservative distance, given the height of the Okha FPSO facility's flare is 12 m lower to what was modelled for the Dorado FPSO.

Vessel lighting and other support activities

Support and IMMR vessels will routinely use external lighting to navigate and safely operate at night for the duration of the Petroleum Activity. Vessel lighting will also be used to communicate the vessels' presence to other marine users (i.e. navigation/warning lights). This lighting is typically bright white (i.e. metal halide, halogen, fluorescent lights), and is not dissimilar to lighting used for other offshore activities, including fishing and shipping. Lighting is required to safely operate the vessels and cannot reasonably be eliminated.

Spot lighting may also be used as needed, such as when deploying and retrieving ROVs. During IMMR activities, lighting is generated over short periods of time while ROVs/AUVs are in use, as well as from deck lighting. Given the typical intensity of ROV/AUV lights and the attenuation of light in seawater, light from ROVs/AUVs will be localised to the vicinity of the ROV and vessels.

For lighting on a vessel around 20 m above sea level, the distance to the visible horizon is approximately 16 km. Any lighting beyond this distance is below the horizon and direct light will not be visible. To also consider radiance, the Dorado FPSO modelling of the non-flaring (operational lighting) scenario can be used as a suitable conservative surrogate, given the increased lighting associated with an FPSO and greater deck height compared to standard support and IMMR vessels. The model results show radiance reduces to ambient (less than 0.01 full moon equivalent) at 17.7 km from the source.

Impact assessment

Environmental value(s) potentially impacted

Species

Lighting from the Okha FPSO facility and vessels may appear from direct unshielded light sources or through skyglow. Where direct light falls upon the ocean, this area of light is referred to as light spill. Skyglow is the diffused glow reflected and refracted in the atmosphere, caused by light that is screened from view.

Receptors that have important habitat within a 20 km buffer of the Operational Area were considered as having potential for interaction, based on recommendations of the National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds (DCCEEW, 2023b). The 20 km threshold provides a precautionary limit based on observed effects of sky glow on marine turtle hatchlings (15 to 18 km) and fledgling seabirds grounded in response to artificial light 15 km away (DCCEEW, 2023b).

Light emissions can affect fauna in two main ways:

- Behaviour: many organisms are adapted to natural levels of lighting and the natural changes associated with the day and night cycle, as well as the night-time phase of the moon. Artificial lighting has the potential to create a constant level of light at night that can override these natural levels and cycles.
- Orientation: marine turtles and birds may also use lighting from natural sources to orient themselves in a certain direction at night. In instances where an artificial light source is brighter than a natural source, the artificial light may act to override natural cues, leading to disorientation.

Fauna expected within the Operational Area are predominantly pelagic fish and zooplankton. The Operational Area also overlaps, or is within 20 km of BIAs. Specifically:

- whale sharks, associated with the foraging BIA that overlaps the Operational Area
- flatback turtles, associated with an internesting buffer BIA that is 15 km southeast of the Operational Area
- wedge-tailed shearwaters, associated with the breeding BIA that overlaps the Operational Area.

There is no habitat critical to the survival of the species overlapping or within 20 km of the Operational Area.

As lighting from flaring may be visible up to 42.4 km from the Okha FPSO facility, species with BIAs outside of 20 km and within 42.4 km have also been considered. Although the National Light Pollution Guidelines (DCCEEW, 2023b) suggest impact to these species is unlikely beyond 20 km from the source, for completeness another species assessed was:

- flatback turtles, associated with the habitat critical to the survival of the species located 31 km southeast of the Operational Area.

Fish

Lighting from the Petroleum Activity may result in aggregations of fish. These aggregations are considered localised and temporary and any long-term changes to fish species composition or abundance is considered highly unlikely.

Marine turtles

Light emissions interacting with turtle nesting behaviour is widely considered detrimental because of its ability to alter important nocturnal activities, including choice of nesting sites and orientation/navigation to the sea by hatchlings (Witherington and Martin, 2003).

Hatchlings

The most significant risk posed to marine turtles from artificial lighting is the potential disorientation of hatchlings after they emerge from nests, although the behaviour of breeding adult turtles can also be affected (DCCEEW, 2023b). Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017) considers light pollution a threat to hatchling orientation, survivability/predation and sea-finding behaviours, and can disrupt nesting behaviours of mature females.

The nearest potential nesting site in relation to the Okha FPSO facility is the Dampier Archipelago (approximately 94 km away). Lighting from the Petroleum Activity is not expected to reach these sites and therefore impacts to hatchling behaviour are unlikely.

Adults

Artificial lighting may affect the location where turtles emerge to the beach, the success of nest construction, whether nesting is abandoned, and the seaward return of adults (Salmon et al., 1995; Witherington, 1992; Pendoley Environmental, 2020a). However, such lighting impacts typically arise from residential and industrial development overlapping the coastline, rather than from offshore activities.

The internesting period is the duration between each successive clutch during that season. The females remain close to rookeries or beaches; therefore, designated and defined buffer zones have been gazetted immediately seaward from nesting beaches. The closest internesting buffer to the Operational Area is approximately 15 km south-east and is associated with the flatback turtle. Marine turtles do not use light cues to guide internesting behaviours (Pendoley, 2000). To date, there is no evidence to suggest internesting turtles are attracted to light from offshore vessels (Pendoley Environmental, 2020b). As such, light emissions from the facility and vessels are unlikely to result in displacement of, or behavioural changes to, individuals in these life stages.

It is acknowledged that light from the Okha FPSO facility may be visible from habitat critical for the survival of flatback turtles, which is located outside the 20 km area where the National Light Pollution Guidelines suggest impact could occur, but within the area where light from the Petroleum Activity could be visible. Given the water depth and lack of preferred foraging habitat, flatback turtles are expected to be present in very low numbers only over the area where light could be visible from the Petroleum Activity.

For nesting females, lighting is important when selecting a site for laying clutches (Aubé, 2005), whereby they prefer more dimly lit areas. The distance from the Okha FPSO facility to the coastline at the Dampier Archipelago is 94 km, almost double the distance that light is expected to be visible from the Petroleum Activity. Therefore, there is not expected to be any impacts to nesting adults from light emissions.

Seabirds

Artificial lighting can attract and disorient seabird species, resulting in behavioural changes such as circling light sources or disrupting foraging, or injury and mortality near the light source as a result of collision (Gatson et al., 2014).

The most vulnerable life stages for seabirds and migratory shorebirds are nesting adults or fledglings. Nesting or fledgling seabirds and migratory shorebirds are vulnerable to artificial lighting within 20 km of the nesting location (DCCEEW, 2023b). A breeding BIA for the wedge-tailed shearwater overlaps the Operational Area. The nearest potential seabird roosting habitat is located over 100 km southeast of the Operational Area.

Adult shearwaters are vulnerable to artificial lighting during the breeding cycle, when returning to and leaving the nesting colony to maintain nesting sites or to forage. Foraging wedge-tailed shearwaters may be attracted to sources of light emissions to feed on fish drawn to the light; however, the species feeds predominantly during the day, in association with pelagic predators (Catry et al., 2009). Most foraging trips are short, with single-day foraging trips significantly more common than any other length, with birds returning to nesting/roosting sites between trips. The numbers of wedge-tailed shearwaters present in the Operational Area at night is expected to be low given the primarily diurnal foraging behaviour, and behavioural impacts to the species are considered to be highly unlikely. Given the foraging behaviours of roosting shearwaters, artificial light from the Operational Area is not predicted to disrupt critical breeding behaviours within important nesting habitat or displace seabirds from nesting habitat.

Fledgling shearwaters are predominantly impacted by onshore lighting sources, which can override sea finding cues and attract fledglings further inland, preventing them from reaching the sea (Mitkus et al., 2018). Artificial light can also impact important behaviour of nesting adults (e.g. adult nest attendance, maintaining nest sites) or confuse shearwater species, resulting in injury or mortality as a result of birds colliding with structures (Cianchetti-Benedetti et al., 2018). Given the offshore location of the Operational Area, approximately 100 km from the nearest landfall, impacts to the survivability of fledglings from artificial lighting from the Petroleum Activity are not expected.

In a study of offshore oil platforms in the North Sea, Poot et al. (2008) observed that migrating seabirds can be attracted to the lights and flares of offshore oil platforms, particularly on cloudy nights and between the hours of midnight and dawn. Migratory shorebirds travelling the East Asian-Australasian Flyway may transit through the Operational Area in the vicinity of the Okha FPSO facility and vessels enroute to staging areas, before moving onto the mainland south in the spring or Indonesia in the north in the autumn. It is possible that many of the migrating birds may also take advantage of ships and offshore facilities in the area to rest. Migrating birds in the region are at, or near, the end of their migration (or staging area), and if attracted, will not be facing long-distance journeys directly upon leaving the facility. However, during operations of the Okha FPSO facility to date, there have been no observed trends of migrating birds resting or becoming stranded onboard the facility.

No lasting effect is anticipated on seabirds from operating the Okha FPSO facility and associated vessels.

Cumulative assessment

Woodside has considered the potential light-emitting activities that could overlap with the Petroleum Activity temporally and spatially. This includes assessing simultaneous light emissions from vessels and the Okha FPSO facility, including flaring, which could all occur in the Operational Area at the same time. Similarly, this EP also acknowledges the proximity of Woodside's Angel and NRC operations (approximately 18 km and 32 km from the Okha FPSO facility, respectively). These both include continuous facility lighting as well as flaring and vessel lighting. There may also be instances where IMMR vessels associated with the Angel and NRC operate within a small portion of the Operational Area.

The presence of multiple light sources within the Operational Area and surrounds will result in a greater artificial light footprint in the region. This could result in artificial light emissions occupying a greater field of view for an airborne receptor (e.g. seabird) or proportion of the horizon as viewed from a receptor at sea level, but will not increase light intensity within the visible light footprint. Given the distance to the nearest shoreline (approximately 100 km) and that light intensity will not increase cumulatively, the presence of multiple light sources is not expected to result in behavioural responses of receptors, nor the resulting consequence level, compared to independent light sources.

Cultural values and heritage

Through consultation and review of available literature (Section 4.9), Woodside understands marine fauna that may be affected by light emissions, such as marine turtles, are culturally important to Traditional Custodians. Traditional Custodians value these species both tangibly and intangibly, as they can be considered a resource or linked to songlines and dreaming stories. Traditional Custodians also have connection to many marine species through kinship and totemic systems; an individual may be obligated to care for a species to which they are kin. Traditional Custodians may also have a cultural obligation to care for the environmental values of Sea Country.

As described, potential impacts to marine fauna are predicted to be at an individual level, which are not considered to be ecologically significant at a population level. Impacts are not expected to occur to ecologically significant proportions of the populations of the species, nor expected to result in a decrease of the quality of the habitat such that the extent of these species is likely to decline. As such, cultural values and intangible cultural heritage associated with these species are expected to be maintained.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)51***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
None identified.				
Good practice				
Implement the seabird management plan for the FPSO, which includes: • standardisation and maintenance of record-keeping and reporting of seabird interactions • procedures on seabird intervention, care and management • regulatory reporting requirements for seabirds (unintentional death of or injury to seabirds that constitute MNES) • a scalable, adaptive management process, should impacts to nocturnal seabirds be detected.	F: Yes. CS: Minimal. Standard internal Woodside process.	The seabird management plan is Woodside's internal process developed to manage the impacts of artificial light emissions during petroleum activities. It is designed to minimise the likelihood of impacts to seabirds from light emissions. If impacts to seabirds are identified, implementing the seabird management plan provides controls that can manage the Petroleum Activity such that ongoing impacts are mitigated.	Benefit outweighs cost/sacrifice.	C 11.1
Limit lighting to the minimum required for navigational and safety requirements, except in emergency events.	F: Yes. CS: Minimal.	Reduces impact to as low as it can reasonably be.	Benefit outweighs cost/sacrifice.	C 11.2
Apply a 'living heritage' management approach. Woodside seeks advice and incorporates Traditional Custodian cultural knowledge across all its activities. Cultural safety considerations are factors for our workforce and the Traditional Custodian community.	F: Yes. CS: Minimal.	Implementing the 'living heritage' approach acknowledges and pays respect to Traditional Custodian communities. It supports the transfer of cultural knowledge and is an effective strategy to manage intangible cultural values. This is relevant to managing lightimpacts on species with cultural value.	Benefit outweighs cost/sacrifice.	C 2.1
Professional judgement – eliminate				
No use of external lighting during Petroleum Activity.	F: No. Light is required for safe work	Not considered – control not feasible.	Not considered – control not feasible.	No

51 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)51***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
	and to meet navigational lighting requirements. CS: Not considered – control not feasible.			
No flaring during the Petroleum Activity.	F: No. While not a routine activity, the ability to flare hydrocarbons is a safety-critical requirement onboard the Okha FPSO facility. CS: Not considered – control not feasible.	Not considered – control not feasible.	Not considered – control not feasible.	No
Professional judgement – substitute				
Substitute external lighting with light sources designed to minimise impacts to seabirds, shorebirds and marine turtles: • Use intermittent lights instead of fixed • Use motion sensors to tun lights on only when needed • Use luminaires with spectral content appropriate for the species present • Avoid high intensity light of any colour.	F: Yes. Replacing external lighting with the alternative lighting is technically feasible, although is not considered to be practicable. CS: Significant cost sacrifice. Retrofitting all external lighting on the Okha FPSO facility and all vessels would result in considerable cost and time expenditure. Considerable logistical effort to source enough inventory of the range of light types onboard Okha FPSO facility and vessels.	Given the distance from sensitivities (e.g. turtle nesting beaches) and the potential impacts to marine turtles, nesting seabirds and fledglings during this activity, implementation of alternative FPSO lighting would not result in a reduction of consequence. In addition the most visible source of artificial light from the facility is the flare – alternative external lighting has no effect on this light source. Potential for minor reduction in impacts to individual foraging seabirds that may transit the Operational Area, as outlined in the National Light Pollution Guidelines (DCCEEW, 2023b).	Grossly disproportionate. Implementation of the control requires considerable cost sacrifice for minimal environmental benefit. The cost/sacrifice outweighs the benefit gained.	No
Professional judgement – engineered solution				
None identified.				
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with planned light emissions. As no reasonably practicable additional controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact/risk assessment has determined that, given the adopted controls, planned light emissions from the Petroleum Activity may result in localised impacts to species with no lasting effect. A breeding BIA for the wedge-tailed shearwater overlaps the Operational Area. Conservation advice and the National Light Pollution Guidelines (DCCEEW, 2023b) were taken into consideration during the impact evaluation and the Petroleum Activity is determined to be consistent with these. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts/risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 11 No impacts to marine fauna from light emissions greater than that caused by the minimum required for safe work and navigation.	C 11.1 Implement the seabird management plan for the FPSO, which includes: • standardisation and maintenance of record-keeping and reporting of seabird interactions • procedures on seabird intervention, care and management • regulatory reporting requirements for seabirds (unintentional death of or injury to seabirds that constitute MNES) • a scalable, adaptive management process should impacts to nocturnal seabirds be detected.	PS 11.1 Implement the seabird management plan.	MC 11.1.1 Records demonstrate the seabird management plan was implemented.
	C 11.2 Limit lighting to the minimum required for navigational and safety requirements, except in emergency events.	PS 11.2 Lighting is limited to that required for safe work and navigation.	MC 11.2.1 Inspection records demonstrate lighting was limited to the minimum required for safe working and navigation.
EPO 2 Woodside will actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural values and heritage.	C 2.1 Refer to Section 6.6.1	PS 2.1.1 Refer to Section 6.6.1	MC 2.1.1 Refer to Section 6.6.1
		PS 2.1.2 Refer to Section 6.6.1	MC 2.1.2 Refer to Section 6.6.1

6.7 Unplanned activities (accidents, incidents, emergency situations)

For Woodside's production facilities, an analysis is undertaken to identify, classify and analyse MEEs, as described in Section 2.3. This extra level of rigour is applied to ensure sufficient controls for operational activities are in place for risks with potential Level B and above consequences, as per Woodside's Risk Matrix. MEEs are evaluated against credible worst-case scenarios that may occur when all controls are absent or have failed. The risks considered in this section have been identified as MEEs due to the potential for significant consequence. These sources of risk are subject to additional consideration in accordance with the process described in Section 2.4. Risks associated with the Petroleum Activity that have been classified as MEEs are summarised in Section 6.7.1 and include a range of hydrocarbon spills. The quantitative spill risk assessment methodology used to assess the potential consequence of credible spills is outlined in Section 6.7.2. Credible hydrocarbon spills that have not been classified as MEEs are also assessed after the MEE assessment in Section 6.7. Risks that do not meet the MEE definition, although screened out of the MEE process, are still evaluated for ALARP and risk acceptability using the methodology described in Section 2.4.

6.7.1 Major environmental events overview

Section 2.3 outlines the process for additional analysis and evaluation of MEEs. These are outlined in Table 6-15 and described further in subsequent sections.

Table 6-15: Major environmental events for the Petroleum Activity

No.	Hazard	Top event
MEE-01	Liquid hydrocarbons in reservoirs, wells, wellheads and xmas trees	Loss of well containment
MEE-02	Liquid hydrocarbons in subsea infrastructure (flowlines, manifolds, risers and associated equipment)	Subsea infrastructure loss of containment
MEE-03	Liquid hydrocarbons in topsides equipment	Topsides loss of containment
MEE-04	Liquid hydrocarbons in the Okha offtake system	Loss of containment during offtake
MEE-05	Hydrocarbons in Okha FPSO facility cargo tanks	Cargo tank loss of containment
MEE-06	Liquid hydrocarbons in the Okha FPSO facility and associated infrastructure	Loss of structural integrity
MEE-07	Liquid hydrocarbons in subsea infrastructure and Okha FPSO facility (topsides equipment, offtake system, cargo tanks)	Loss of marine vessel separation
MEE-08	Lifting activities associated with Okha FPSO facility operations	Loss of control of suspended load

Each section includes a summary of the hazard description, hazard management, emergency response, ALARP summary and a list of SCE barriers identified on the bowties. Each group of SCEs is listed under technical performance standards, with consistent naming conventions used across Woodside's process safety management processes (e.g. pipeline integrity SCEs are captured as P09 – Pipeline Systems).

Section 6.7.13 presents the generic SCE failure and generic human error bowties that illustrate the causes, outcomes and controls/barriers in place to manage potential common cause event (CCE) failure mechanisms for MEE controls associated with generic SCE equipment failure (CCE-01) and human error (CCE-02). Controls and specific measures are listed for both bowties. Human error is managed via the WMS and the generic human error bowtie is included in the MEE section for completeness.

ALARP is demonstrated by analysing controls and barriers for selection based on their independence, prioritised in accordance with the hierarchy of controls where controls further up the hierarchy take precedence over controls further down, and further analysed to consider the type of effect the control provides. ALARP controls presented for MEE bowties are labelled in accordance with the 'type of effect' classifications presented in Table 6-16.

Woodside has developed a tailored ALARP position for hydrocarbon spill response, including EPOs, EPSs and MC for preparedness and response. The response arrangements are a mitigative control that applies to all MEEs where a hydrocarbon release may credibly occur. The hydrocarbon spill response arrangements are described in Appendix G.

Table 6-16: Barrier hierarchy and type of effect

Type of effect	Legend	Description
Elimination (technical)		Elimination controls form the 'first line of defence'. They eliminate the underlying hazard and therefore are the most effective category of control measure. If practicable, they should be selected in preference to any other type, as their existence removes the need for any other controls (e.g. a corrosion-resistant metal could replace the original material of construction).
Elimination (administration)		
Prevention (technical)		Prevention controls are intended to remove certain causes of incidents or reduce their likelihood. The corresponding hazard remains, but the frequency of incidents involving the hazard is lowered (e.g. introduction of regular maintenance programs can prevent the development of events involving the hazard). Where hazards and causes could not be 'eliminated', controls are required to prevent them from leading to unwanted events and consequences.
Prevention (administration)		
Detection (technical)		Detection controls are those that identify a potentially hazardous scenario (e.g. a change in operating parameters), allowing initiation of procedures or systems to prevent the cause occurring. Controls that detect the occurrence of events are often critical to being able to respond with other control measures that reduce the propagation of the events. Detection controls themselves often provide no actual control other than the awareness of the need to respond.
Detection (administration)		
Reduction/control (technical)		Reduction controls are intended to limit the scale and consequence of incidents. They include systems that detect incidents and take some action (e.g. to reduce the rate of leakage of a toxic gas), and aspects such as inter-unit separation that prevent escalation of fire and explosion incidents. As there is always potential for controls to fail, additional measures are required to limit the scale and severity of any unwanted event or outcome that may arise, by providing the ability to intervene and limit the propagation of the events.
Reduction/control (administration)		
Mitigation (technical)		Mitigation controls take effect in response to an incident. They include controls that lessen the significance or damage caused by an unwanted event. Such controls only take effect after the hazardous event and outcomes occur. Mitigation controls are generally those designed to protect personnel against the consequences of a hazard or to aid in recovering from the effects of the hazard.

6.7.2 Quantitative spill risk assessment methodology

As part of the risk identification process, Woodside identified the range of credible hydrocarbon spill scenarios that may occur during the Petroleum Activity.

Quantitative hydrocarbon spill modelling was undertaken by RPS (RPS, 2019; RPS, 2024), on behalf of Woodside, using a 3D hydrocarbon spill trajectory and weathering model, SIMAP (Spill Impact Mapping and Analysis Program), which is designed to simulate the transport, spreading and weathering of specific hydrocarbon types under the influence of changing meteorological and oceanographic forces.

A stochastic modelling scheme was followed in this study, whereby SIMAP was applied to repeatedly simulate the defined credible spill scenarios using different samples of current and wind data. These data samples were selected randomly from an historic time-series of wind and current data representative of the study area. Results of the replicate simulations were then statistically analysed and mapped to define contours of percentage probability of contact at identified thresholds around the hydrocarbon release point.

The model simulates surface releases and uses the unique physical and chemical properties of a hydrocarbon type to calculate rates of evaporation and viscosity change, including the tendency to form oil in water emulsions. Moreover, the unique transport and dispersion of surface slicks and in-water components

(entrained and dissolved) are modelled separately. Thus, the model can be used to understand the wider potential consequences of a spill, including direct contact of hydrocarbons due to surface slicks (floating hydrocarbon) and exposure of organisms to entrained and dissolved aromatic hydrocarbons in the water column.

During each simulation, the SIMAP model records the location (by latitude, longitude and depth) of each particle (representing a given mass of hydrocarbons) on or in the water column, at regular time steps. For any particles that contact a shoreline, the model records the accumulation of hydrocarbon mass that arrives on each section of shoreline over time, less any mass that is lost to evaporation or subsequent removal by current and wind forces.

The collective records from all simulations are then analysed by dividing the study region into a 3D grid. For surface hydrocarbons (floating oil), the sum of the mass in all hydrocarbon particles located within a grid cell, divided by the area of the cell, provides hydrocarbon concentration estimates in that grid cell at each model output time interval. For entrained and dissolved aromatic hydrocarbon particles, concentrations are calculated at each time step by summing the mass of particles within a grid cell and dividing by the volume of the grid cell. The process is also subject to the application of spreading filters that represent the expected mass distribution of each distinct particle. The concentrations of hydrocarbons calculated for each grid cell, at each time step, are then analysed to determine whether concentration estimates exceed defined threshold concentrations.

All hydrocarbon spill modelling assessments undertaken by RPS undergo initial sensitivity modelling to determine appropriate time to add to the simulation after the spill ceases. The amount of time after the spill is based on the time required for the modelled concentrations to practically drop below threshold concentrations anywhere in the model domain in the test cases. This assessment is done by post-processing the sensitivity test results and analysing time-series of median and maximum concentrations in the water and on the surface.

6.7.2.1 Hydrocarbon characteristics

Table 6-17 summarises the characteristics of the hydrocarbons used as the basis for the modelling studies and subsequently used to inform the assessment of credible hydrocarbon spills. Additional detail on the characteristics of these hydrocarbons is also provided in the next subsections. Table 6-17 presents two types of Cossack (Okha) light crude. An updated hydrocarbon characteristic for Cossack light crude was used in RPS (2024) modelling of MEE-01. All other MEE were modelled using a very similar Cossack light crude, which has 2.6% more aromatic component. Woodside does not consider there to be any material difference between the two modelled crudes or their behaviour in the marine environment.

Section 6.7.2.1.1 describes the characteristics that have been used in modelling MEE-01, which represents the largest credible spill scenario associated with the Petroleum Activity.

Table 6-17: Characteristics of the hydrocarbon types used for modelling and ecotoxicological studies

Hydrocarbon type	Density (g/m³) at 15°C	Viscosity (cP) at 20°C	Component	Volatile (%)	Semi-volatile (%)	Low volatility (%)	Residual (%)	Aromatics (%)
			Boiling point (°C)	<180	180–265	265–380	>380	Of whole oil <380
Cossack (Okha) light crude [1]	0.7875	1.4	% total	52.2	20.5	11.9	15.2	11.9
			% aromatics	3.7	1.3	9.5	-	-
Cossack (Okha) light crude [2]	0.7875	1.4	% total	52.2	20.5	12.0	15.3	14.5
			% aromatics	3.7	1.3	9.5	-	-
Diesel	0.829	4.0	-	6	34.6	54.4	5	-

Note 1: Used in modelling of MEE-01

Note 2: Used in modelling of MEE-02 to MEE-05.

6.7.2.1.1 Cossack light crude

Cossack light crude (API 48.1) contains a moderate proportion (15.2% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds will persist in the marine environment.

The unweathered mixture has a dynamic viscosity of 1.40 cP. The pour point of the whole oil (-24°C) ensures it will remain in a liquid state over the annual temperature range observed on the NWS.

The mixture is composed of hydrocarbons that have a wide range of boiling points (BPs) and volatilities at atmospheric temperatures, and that will begin to evaporate at different rates when exposed to the atmosphere. Evaporation rates will increase with temperature, but in general about 52.2% of the oil mass should evaporate within the first 12 hours (BP <180°C), a further 20.5% should evaporate within the first 24 hours (BP >180°C to <265°C), and a further 11.9% should evaporate over several days (BP 265°C to < 380°C).

Selective evaporation of the lower BP components will lead to a shift in the physical properties of the remaining mixture, including an increase in the viscosity and pour point. Although removing volatile compounds through evaporation and dissolution will result in an increase in density of the remaining oil, the mixture is unlikely to solidify or sink as it weathers.

The whole oil has low asphaltene content (<0.5%), indicating a low propensity to take up water to form water-in-oil emulsion over the weathering cycle.

Soluble aromatic hydrocarbons contribute around 11.9% by mass of the whole oil, with a moderate proportion (7.4%) in the C4 to C10 range of hydrocarbons. These compounds will evaporate rapidly, reducing the potential for dissolving a proportion of them into the water.

In terms of weathering, modelling indicates a moderate proportion of Cossack light crude will tend to persist on the sea surface (approximately 20% after seven days) during calm wind conditions, with negligible levels of entrainment (<0.5%) and around 75% of the spilled volume expected to evaporate within the first 24 hours (Figure 6-2). For variable strength winds, modelling indicates a higher percentage of Cossack light crude is likely to entrain and dissolve in the water column. Approximately 24 hours after the spill, around 64% of the oil mass is forecast to have entrained and a further 20% is forecast to have evaporated, leaving only a small percentage (around 1.8%) of the oil floating on the sea surface (Figure 6-3).

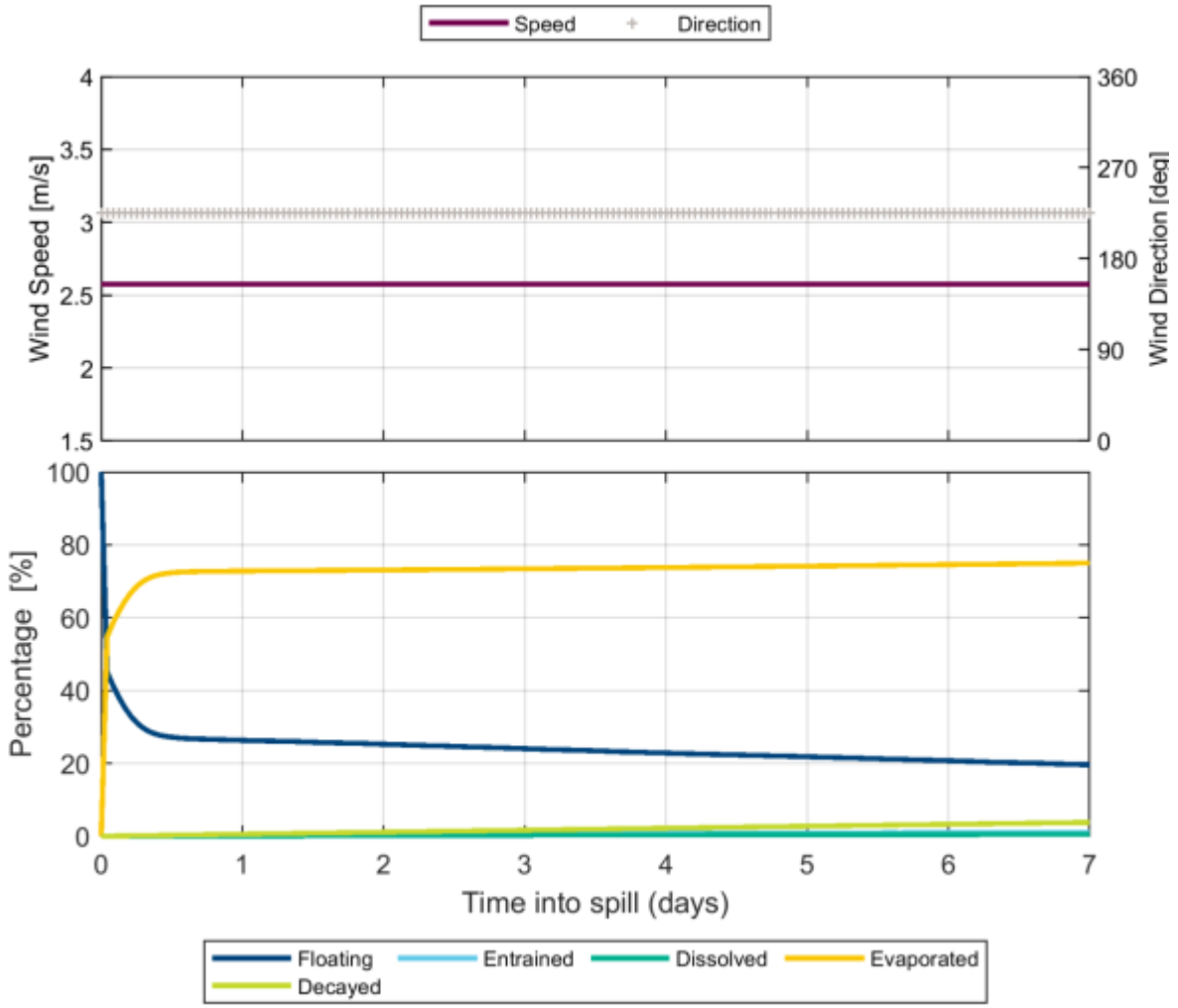


Figure 6-2: Proportional mass balance plot representing the weathering of Cossack light crude spilled onto the water surface as a one-off release (50 m³ over one hour) and subject to a constant five knots (2.6 m/s) wind at 27°C water temperature and 25°C air temperature

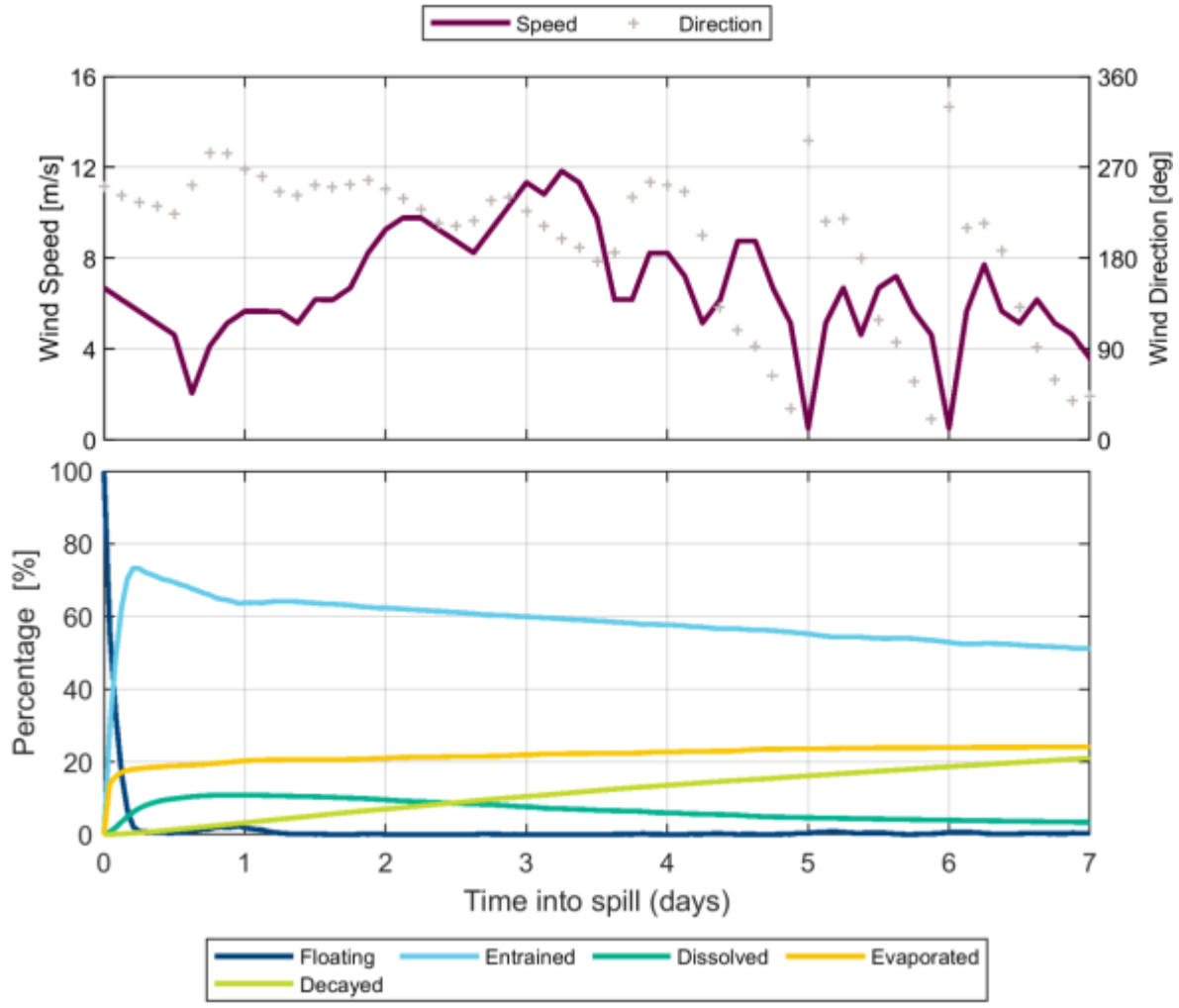


Figure 6-3: Proportional mass balance plot representing the weathering of Cossack light crude spilled onto the water surface as a one-off release (50 m³ over one hour) and subject to variable wind at 27°C water temperature and 25°C air temperature

6.7.2.1.2 Diesel

Diesel is a mixture of volatile and persistent hydrocarbons with low proportions of highly volatile and residual components. In general, about 6% of the oil mass should evaporate within the first 12 hours (BP <180°C); a further 35% should evaporate within the first 24 hours (BP 180°C to <265°C); and a further 54% should evaporate over several days (BP 265°C to <380°C). Approximately 5% of the oil is shown to be persistent. The aromatic content of the oil is around 3%.

If released in the marine environment and in contact with the atmosphere (i.e. surface spill), around 41% by mass of this oil is predicted to evaporate over the first few days, depending upon the prevailing conditions, with further evaporation slowing over time. The heavier (low volatility) components of the oil tend to entrain into the upper water column due to wind-generated waves but can subsequently resurface if wind-generated waves abate. Therefore, the heavier components of this oil can remain entrained or on the sea surface for an extended period, with associated potential for dissolving the soluble aromatic fraction.

The mass balance forecast for the constant-wind case for diesel shows that around 40% of the oil is predicted to evaporate within 36 hours. Under these calm conditions, most of the remaining oil on the water surface would weather at a slower rate due to being comprised of the longer-chain compounds with higher BPs. Evaporation of the residual compounds will slow significantly, and they will then be subject to more gradual decay through biological and photochemical processes.

Under the variable-wind case (Figure 6-4), where the winds are stronger, entrainment of diesel into the water column is indicated to be significant. Approximately two days after the spill, around 50% of the oil mass is forecast to have entrained and a further 45% is forecast to have evaporated, leaving only a small proportion of the oil floating on the water surface (<2%). The residual compounds will tend to remain entrained beneath the surface under conditions that generate wind waves (approximately >6 m/s).

Biological and photochemical degradation is predicted to contribute to the decay of the floating slicks and oil droplets in the water column at an approximate rate of around 0.5% per day, for an accumulated total of about 3 to 4% after seven days in each wind case. However, given the large proportion of entrained oil and the tendency for it to remain mixed in the water column, the remaining hydrocarbons will decay or evaporate over time scales of several weeks to a few months. This long weathering duration will extend the area of potential effect, requiring the break-up and dispersion of the slicks and droplets to reduce concentrations below the thresholds considered in this study.

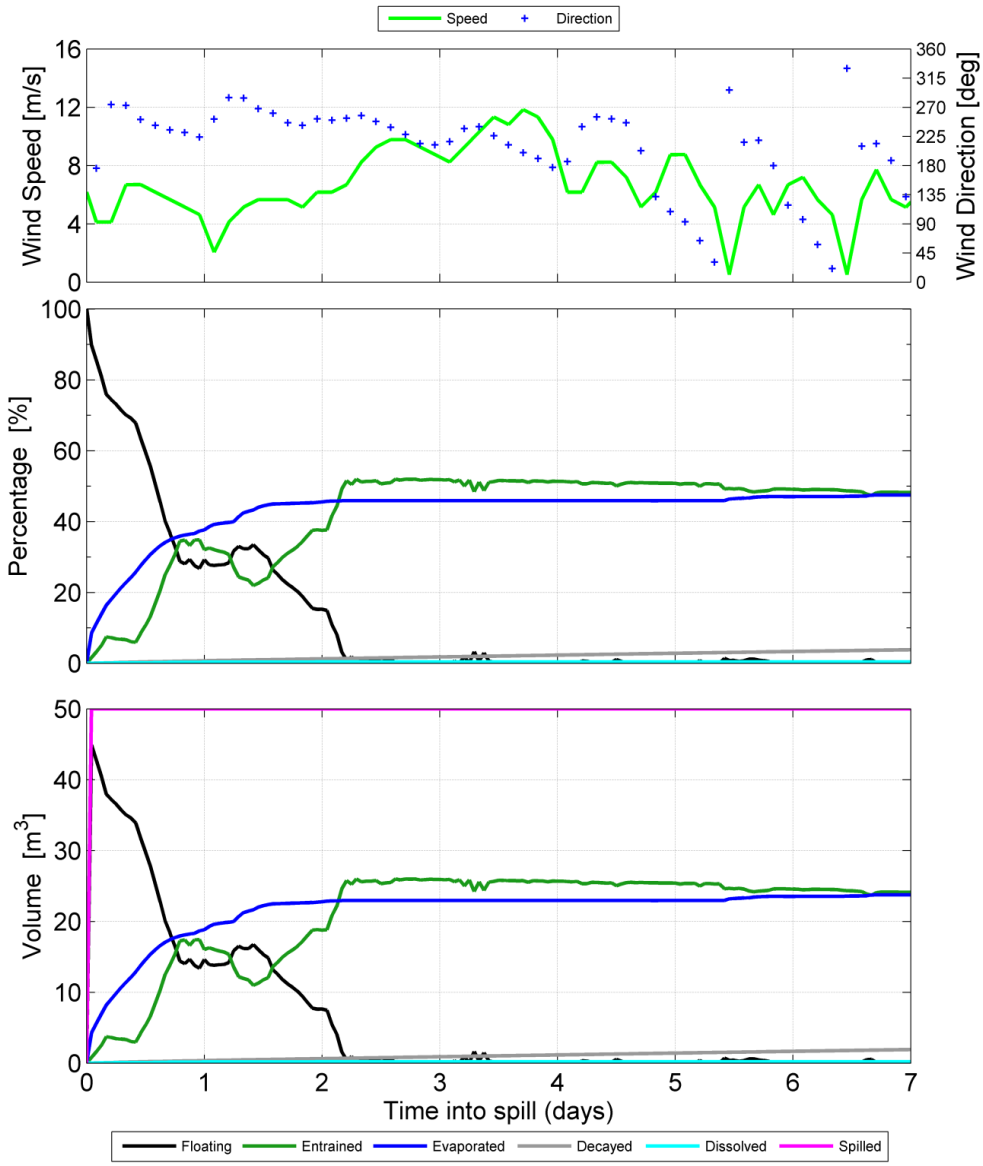


Figure 6-4: Mass balance plot representing, as proportion (middle panel) and volume (bottom panel), the weathering of diesel spilled onto the water surface as a one-off release (50 m³ over one hour) and subject to variable winds (top panel) at 27°C water temperature

6.7.2.2 Environment that may be affected and hydrocarbon contact thresholds

The outputs of the quantitative hydrocarbon spill modelling are used to assess the environmental consequence, by delineating which areas of the marine environment could be exposed to hydrocarbon levels that exceed selected hydrocarbon threshold concentrations if a credible hydrocarbon spill scenario occurs. The summary of the locations where hydrocarbon thresholds could be exceeded by any of the simulations modelled is defined as the EMBA.

The EMBA covers a larger area than the area that is likely to be affected during any single spill event, as the model was run for various weather and metocean conditions. The EMBA represents the total extent of all locations where hydrocarbon thresholds could be exceeded from all modelling runs. Furthermore, as the weathering of different fates of hydrocarbons (surface, entrained and dissolved) differs due to the influence of the metocean mechanism of transportation, a different EMBA is presented for each hydrocarbon fate. Together, these EMBA define the spatial extent for the existing environment described in Section 4.

Hydrocarbon contact below the defined thresholds may occur outside the EMBA; however, the effects of these low exposure values will be limited to temporary exceedance of water quality triggers. The area within which this may occur in the event of a worst-case credible spill is presented in Appendix G: Figure 5-1.

A conservative approach to selecting thresholds has been applied for ecological and socio-cultural impact thresholds, presented in Table 6-18. These thresholds are discussed further in Section 4.1, Table 4-1.

Table 6-18: Summary of thresholds applied to the quantitative hydrocarbon spill risk modelling results

EMBA				Socio-cultural hydrocarbon EMBA
Surface hydrocarbon (g/m^2)	**Dissolved hydrocarbon (ppb)**	**Entrained hydrocarbon (ppb)**	**Accumulated hydrocarbon (g/m^2)**	**Surface hydrocarbon (g/m^2)**
10	50	100	100	1

6.7.2.3 Operational and scientific monitoring

A planning area for operational and scientific monitoring is also described in the Oil Spill Preparedness and Response Mitigation Assessment (Appendix G). This planning area has been set with reference to the low exposure entrained value of 10 ppb detailed in the NOPSEMA (2019) bulletin Oil Spill Modelling.

Operational and scientific monitoring programs may be activated after a release event that has the potential to contact sensitive environmental receptors. This would consider receptors at risk (ecological and socio-economic), particularly any identified first-strike monitoring priorities for the worst-case credible spill scenario or other identified unplanned hydrocarbon releases associated with the operational activities.

6.7.3 Unplanned hydrocarbon release: loss of well containment (MEE-01)

Context		
Wells and reservoirs – Section 3.5.2	Physical environment – Section 4.4 Habitats and biological communities – Section 4.5 Protected species – Section 4.6 Key ecological features – Section 4.7 Protected places – Section 4.8 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Release of hydrocarbons resulting from loss of subsea well containment	X	X	X	X	X	X	B	A	0	M	LCS GP PJ RBA CV SV	Acceptable if ALARP	EPO 12 EPO 2

Description of source of risk

Background

A loss of well containment can lead to an uncontrolled release of reservoir hydrocarbons or other well fluids to the environment, resulting in a well blowout. Woodside has identified a well blowout as the scenario with the worst-case credible environmental outcome as a result of this event. Due to the potential consequences, a loss of well containment is considered an MEE (MEE-01). A loss of well containment could occur because of:

- internal corrosion
- external corrosion
- erosion
- overpressure of the annuli
- fatigue
- loss of structural integrity
- loss of control of suspended load from vessel (operating near subsea wells).

Common failure causes due to human error and SCE failures are presented in the generic human error and SCE failure bowties in Section 6.7.13.

Whilst not an MEE, there is a potential for ROV inspection subsea to identify an anomaly, such as an unplanned hydrocarbon fugitive emission or oil weep or seep from the subsea infrastructure, including wells. Subsea infrastructure is managed in accordance with the IMMR processes described in Section 3.7 as well as SCE Performance Standards, and wells are managed in accordance with the WOMP. During a period where the Okha FPSO is planned to be off-station for an extended period, e.g. for shipyard maintenance or upgrades, the online

monitoring of wells from the Okha FPSO ceases. Prior to the Okha FPSO sailing away for an extended period, additional controls may be implemented in accordance with the WOMP to ensure the risk of a weep is reduced to ALARP and is acceptable, while the FPSO is off-station.

Loss of well containment – credible scenarios

The Petroleum Activity includes production from a series of subsea wells (identified in Section 3.5.2). One credible worst-case loss of well containment scenario was identified for these wells, being:

- well blowout at seabed – highest flow rate subsea well (LH3).

The credible worst-case subsea release volume was based on the LH3 subsea well highest flow rate (refer to Table 6-19). Other subsea wells also present loss of containment risk at lower release volumes. The loss of well containment scenario was modelled to a duration of 77 days. The estimated time required to successfully drill a relief well was 58 to 77 days. This takes into account time to prepare, mobilise and set up a drilling rig and to intersect and kill the well. The characteristics of Cossack (Okha) light crude was used as the basis in the modelling; refer to Section 6.7.2 for more information about modelling methods and environmental impact, thresholds and hydrocarbon characteristics justifications.

Table 6-19: Summary of worst-case loss of well containment hydrocarbon release scenario

Scenario	*Hydrocarbon*	*Average rate (m^3/day)*	*Duration (days)*	*Depth (m)*	*Latitude (WGS84)*	*Longitude (WGS84)*	*Total crude release volume (m^3)*
Well blowout at seabed (LH3)	Cossack light crude	1,104	77	126.5	19° 26' 58.47" S	116° 29' 16.23" E	83,212

Decision type, risk analysis and ALARP tools

Woodside has a good history of implementing industry standard practice in well design and construction. In the company's recent history, it has not experienced any well integrity events that have resulted in significant releases or significant environmental impacts. The Okha FPSO facility has never experienced a worst-case loss of well containment in its operational history.

Decision type

Decision Type B was applied to this risk under the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). This reflects the complexity of the risk, the higher potential consequence, and the stakeholder implications if the event is realised. To align with this decision type, a further level of analysis was applied using risk-based tools. including the bowtie methodology (described in Section 2.3.3) and hydrocarbon spill trajectory modelling. Company and societal values were also considered when demonstrating ALARP and acceptability, through peer review, benchmarking and stakeholder consultation.

The release of hydrocarbons as a result of loss of well containment is considered an MEE (MEE-01). The hazard associated with this MEE is hydrocarbons in subsea wells tied-back to the Okha FPSO facility.

Quantitative spill risk assessment

The worst-case credible loss of well containment spill scenario was modelled by RPS (RPS, 2024), on behalf of Woodside, over a 77-day duration to determine the fate of hydrocarbons released based on the assumptions in Section 6.7.2. Modelling was undertaken over all seasons to address year-round operations. This is considered to provide a conservative estimate of the EMBA and the potential impacts from the identified worst-case credible release volumes for all loss of well containment scenarios.

Consequence

The spatial extent and fate (including weathering) of potential spilled hydrocarbon were considered during the impact assessment for a worst-case loss of well containment (presented in the next section). These considerations were informed primarily by the outputs from the numerical modelling studies by RPS, available information on environmental sensitivities that may credibly be impacted in the event of a worst-case spill (Section 4), and relevant literature and studies that consider the effects of hydrocarbon exposure.

Likelihood

In accordance with the Woodside Risk Matrix, a worst-case loss of well containment has been defined as 0 (Remote). Information to support this likelihood determination is outlined below.

Review of industry statistics indicates the probability of a loss of well containment for production wells is low (10.6% of blowouts) relative to other activities in other hydrocarbon provinces (Gulf of Mexico and the North Sea), such as exploration drilling (31.5% of blowouts), development drilling (23.6% of blowouts) and well workovers (20.5% of blowouts) (SINTEF, 2017).

Separate analysis of blowout data collected between 1980 and 2014 in the North Sea and the Gulf of Mexico shows that only eleven blowouts occurred during the production phase at a frequency of 2.1 × 10–5 blowouts per well year

(International Association of Oil and Gas Producers, 2019). North Sea standards of well design and operation are considered to be aligned with those applied by Woodside, as outlined in the Okha WOMP. Whilst 9 wells are tied back to the Okha FPSO facility, not all are producing, and only well LH3 is high enough producing to result in a blowout volume in the order presented above. Using the Subsea Fraction of 0.43 for subsea wells, this yields a frequency of 9.03×10^{-6} per year (or 1 in 110,742 years). This data quantitatively supports the likelihood ranking as described above.

Consequence assessment

Environmental value(s) potentially impacted

Environment that may be affected

The overall EMBA for the Petroleum Activity is based on stochastic modelling, which compiles data from multiple hypothetical worst-case spill simulations under a variety of weather and metocean conditions (as described in Section 6.7.2.2). The EMBA covers a larger area than the area that would be affected during any single spill event, and therefore represents the total extent of all locations where hydrocarbon thresholds could be exceeded from all modelling runs. The trajectory of a single spill would have a considerably smaller footprint. As the weathering of different fates of hydrocarbons (surface, entrained and dissolved) differs due to the influence of the metocean mechanism of transportation, a different EMBA is discussed for each fate.

Impacts in the event unplanned hydrocarbon fugitive emission or oil weep or seep are significantly lower in magnitude compared to a loss of well containment described in this section. Impacts would be limited to a localised reduction in water in proximity to the well/subsea infrastructure, for the duration of the weep or seep. If released into the low-sensitivity receiving environment within the Operational Area, any release is expected to mix rapidly and dilute in the water column. Environmental receptors at risk would be restricted to those in the immediate vicinity and may include plankton and fish species within the water column. Potential impacts to plankton may include acute toxicity, resulting in mortality of planktonic organisms. Given the rapid turnover of plankton communities and nature and scale of the leak, these impacts would be short-lived (hours to days). Impacts to fish are expected to be of no lasting effect, as fish species are mobile and expected to avoid the area affected by the unplanned hydrocarbon fugitive emission or oil weep or seep.

Surface hydrocarbons

Quantitative spill modelling results for surface hydrocarbons are shown in Table 6-20. The modelled surface hydrocarbons are forecast to drift in all directions, reflecting the competing influence of both surface currents and winds across the wide area, and may extend up to approximately 39 km northeast from the release site at concentrations above the EMBA impact threshold (10 g/m²). No receptors were calculated to receive contact by floating oil ≥ 10 g/m^2.

Contact with sensitive receptors by surface (floating) hydrocarbons at or above the socio-cultural threshold (1 g/m²) was predicted for the submerged receptors of Rankin Bank (3% probability) and Montebello Marine Park (2% probability), as shown in Table 6-20.

Entrained hydrocarbons

Quantitative spill modelling results for entrained hydrocarbons are shown in Table 6-20 The modelled entrained hydrocarbons are forecast to potentially drift in all directions, with the most likely directions of travel being to the north-east and south-west of the release site. Contact by entrained oil at concentrations equal to or greater than 100 ppb is predicted at the Montebello AMP (40% probability), Rankin Bank (25%), Muiron Islands (16% including State Marine Park), Ningaloo (14%, including the AMP, World Heritage Area and State Marine Park) and Gascoyne AMP (13%), as well as several other receptors with probabilities lower than 10% (Table 6-20). The maximum entrained oil concentration forecast for any receptor is predicted at 459 ppb at the Ningaloo AMP and Ningaloo Coast World Heritage Area. Table 6-20 indicates entrained threshold concentration contact locations for receptors as identified by the modelling.

Dissolved hydrocarbons

Quantitative spill modelling results for dissolved hydrocarbons are shown in Table 6-20. The modelled dissolved hydrocarbons at or above 50 ppb are forecast to potentially drift in all directions, with the most likely directions of travel being to the north-east and south-west of the release site, extending up to approximately 550 km from the release site. Contact by dissolved aromatic hydrocarbons at concentrations equal to or greater than 50 ppb is predicted to be greatest at Montebello AMP (47% probability) and Rankin Bank (45% probability), and several other receptors with probabilities lower than 10% (Table 6-20). The maximum dissolved aromatic hydrocarbon concentration forecast for any receptor is predicted as 2573 ppm at Rankin Bank.

Accumulated hydrocarbons

Quantitative spill modelling results for accumulated hydrocarbons are shown in Table 6-20. The Pilbara Islands – Southern Island Group (23% probability), Muiron Islands (18% probability), and several other receptors with probabilities lower than 10% (Table 6-20), are predicted to experience shoreline accumulation that exceed the 100 g/m² ecological impact threshold. Potential for oil to accumulate on shorelines is predicted to be greatest at the Pilbara Islands – Southern Island Group.

Consequence assessment summary

Table 6-20 presents the sensitive receptors and their locations that may be exposed to hydrocarbons (surface, entrained, dissolved and accumulated) at or above the set threshold concentrations in the remote likelihood of a major hydrocarbon release from a loss of well integrity during the Petroleum Activity. Details of these receptors are outlined in Section 3. The potential biological and ecological impacts of an unplanned hydrocarbon release as a result of a loss of well integrity during the Petroleum Activity are presented in the next sections.

Table 6-20: Key receptor locations and sensitivities potentially contacted above impact thresholds by the loss of well containment scenario with summary hydrocarbon spill contact (table cell values correspond to probability of contact [%])

Environmental setting	Location/name	Environmental, social, cultural, heritage and economic aspects presented as per the environmental risk definitions in Woodside's Risk Management Procedure																												Probability of hydrocarbon contact and fate (Cossack [Okha] light crude)					
		Physical		Biological																					Socio-economic and cultural						Socio-cultural thresholds		Ecological thresholds			
		Water quality	*Sediment quality*	*Marine primary producers*			*Other communities/habitats*								*Protected species*									*Other species*												
		Open water (pristine)	Marine sediment (pristine)	Coral reef	Seagrass beds/macroalgae	Mangroves	Spawning/nursery areas	Open water – productivity/upwelling	Non-biogenic coral reefs	Offshore filter feeders and/or deepwater benthic communities	Nearshore filter feeders	Sandy shores	Estuaries/tributaries/creeks/lagoons (including mudflats)	Rocky shores	Cetaceans – migratory whales	Cetaceans – dolphins and porpoises	Dugongs	Pinnipeds (sea lions and fur seals)	Marine turtles (including foraging and internesting areas and significant nesting beaches)	Sea snakes	Whale sharks	Sharks and rays	Sea birds and/or migratory shorebirds	Pelagic fish populations	Resident/demersal fish	Fisheries – commercial	Fisheries – traditional	Tourism and recreation	Protected areas/heritage – European and Indigenous/shipwrecks	Offshore oil & gas infrastructure (topside and subsea)	Surface hydrocarbon (1-10 g/m²)	Accumulated hydrocarbons (10–100 g/m²)	Surface hydrocarbon (≥10 g/m²)	Entrained hydrocarbon (≥100 ppb)	Dissolved aromatic hydrocarbon (≥50 ppb)	Accumulated hydrocarbons (>100 g/m²)
Australian marine parks[52]	Argo-Rowley Terrace	✓						✓							✓	✓			✓			✓	✓	✓		✓			✓					6	2	
	Gascoyne	✓	✓					✓								✓			✓			✓	✓	✓		✓			✓		1			13	3	
	Montebello	✓	✓	✓			✓	✓								✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		2			40	47	
	Ningaloo	✓	✓	✓	✓	✓	✓	✓		✓						✓			✓		✓	✓	✓	✓	✓	✓	✓	✓	✓		1			14	4	
Coastlines	Carnarvon	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓		✓	✓			3					
	Exmouth	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓		✓	✓			25		2		4
	Exmouth Gulf West	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓		✓	✓			1					
Islands	Abrolhos Islands	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓	✓	✓		✓		✓		✓	✓	✓	✓	✓		✓	✓			2					
	Bedwell Island	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓	✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓			36					12
	Cunningham Island	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓	✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓			33		5		4	
	Montebello Islands (including State Marine Park)	✓	✓	✓	✓	✓	✓	✓				✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓			35		3	4	9	
	Barrow Island (including State Nature Reserves, State Marine Park and Marine Management Area)	✓	✓	✓	✓		✓	✓				✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		15		1	4		
	Lowendal Islands (including State Nature Reserve)	✓	✓	✓	✓		✓	✓				✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓		7					
	Pilbara Islands – Southern Island Group (Peak Island, Flat Island, Tortoise Island, Airlie Island, Twin Island, Direction Island, Ashburton Island, Locker Island, Round Island, Table Island, Fly Island, Rivoli Island Serrurier Island, Thevenard Island and Bessieres Island – State Nature Reserves)	✓	✓		✓		✓		✓			✓		✓		✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓			45		8	4	23	

52 Note: Hydrocarbons cannot accumulate on open ocean, submerged receptors, or receptors not fully emergent.

Environmental setting	Location/name	Environmental, social, cultural, heritage and economic aspects presented as per the environmental risk definitions in Woodside's Risk Management Procedure																										Probability of hydrocarbon contact and fate (Cossack [Okha] light crude)					
		Physical		Biological																						Socio-economic and cultural					Socio-cultural thresholds		Ecological thresholds			
		Water quality	*Sediment quality*	*Marine primary producers*			*Other communities/habitats*								*Protected species*										*Other species*										
		Open water (pristine)	Marine sediment (pristine)	Coral reef	Seagrass beds/macroalgae	Mangroves	Spawning/nursery areas	Open water – productivity/upwelling	Non-biogenic coral reefs	Offshore filter feeders and/or deepwater benthic communities	Nearshore filter feeders	Sandy shores	Estuaries/tributaries/creeks/lagoons (including mudflats)	Rocky shores	Cetaceans – migratory whales	Cetaceans – dolphins and porpoises	Dugongs	Pinnipeds (sea lions and fur seals)	Marine turtles (including foraging and internesting areas and significant nesting beaches)	Sea snakes	Whale sharks	Sharks and rays	Sea birds and/or migratory shorebirds	Pelagic fish populations	Resident/demersal fish	Fisheries – commercial	Fisheries – traditional	Tourism and recreation	Protected areas/heritage – European and Indigenous/shipwrecks	Offshore oil & gas infrastructure (topside and subsea)	Surface hydrocarbon (1-10 g/m²)	Accumulated hydrocarbons (10–100 g/m²)	Surface hydrocarbon (≥10 g/m²)	Entrained hydrocarbon (≥100 ppb)	Dissolved aromatic hydrocarbon (≥50 ppb)	Accumulated hydrocarbons (>100 g/m²)
	Muiron Islands (World Heritage Area [WHA], State Marine Park)	✓	✓	✓	✓		✓	✓		✓		✓		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓			✓	✓			43		16	3	18
Marine parks	Clerke Reef (Rowley Shoals)	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓				✓	✓	✓	✓	✓	✓	✓			✓	✓			21				
	Imperieuse Reef (Rowley Shoals)	✓	✓	✓	✓		✓	✓		✓	✓	✓			✓	✓				✓	✓	✓	✓	✓	✓	✓			✓	✓			33		5		4
	Ningaloo (including marine park and WHA)	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		1	25		14	4	4
	Shark Bay (including WHA)	✓	✓		✓		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓			✓	✓			2				
National parks	Cape Range	✓	✓	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓		✓	✓		✓	✓			25		2		1
Nature reserves	Bernier and Dorre Island	✓	✓	✓	✓		✓	✓				✓		✓		✓				✓	✓		✓	✓	✓	✓	✓		✓	✓			2				
	Boodie, Double and Middle Islands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			15				
	Scott Reef	✓	✓	✓	✓		✓	✓	✓	✓					✓	✓				✓	✓	✓	✓	✓	✓	✓		✓	✓			2				
	Thevenard Island	✓	✓		✓		✓		✓			✓		✓		✓	✓			✓	✓		✓	✓	✓	✓	✓		✓	✓			19				
Reefs, shoals and banks	Rankin Bank	✓	✓	✓			✓	✓		✓					✓	✓	✓			✓		✓		✓	✓	✓		✓			3			25	45	
	Rosily Shoals	✓	✓	✓			✓	✓		✓					✓	✓	✓			✓		✓		✓	✓	✓		✓						3	1	
	Tryal Rocks	✓	✓	✓			✓	✓		✓					✓	✓	✓			✓		✓		✓	✓	✓		✓						2	9	
	Glomar Shoals	✓	✓	✓			✓	✓		✓					✓	✓	✓			✓		✓		✓	✓	✓		✓							8	

Summary of potential impacts to environmental value(s)	
Summary of potential impacts to protected species	
Setting	***Receptor group***
Offshore	***Cetaceans*** A range of cetaceans were identified as potentially occurring within the Operational Area and wider EMBA (Section 4.6.3). In the event of a loss of well containment, surface, entrained and dissolved hydrocarbons exceeding environmental impact threshold concentrations may drift across habitat for cetacean species. Migratory routes and BIAs of cetaceans considered to be MNES may be affected, including humpback whales and pygmy blue whales (northbound and southbound migrations), and southern right whales (migration). Cetaceans that have direct physical contact with surface, entrained or dissolved aromatic hydrocarbons may suffer surface fouling, ingestion of hydrocarbons (from prey, water and sediments), aspiration of oily water or droplets, and inhalation of toxic vapours (Deepwater Horizon Natural Resource Damage Assessment Trustees, 2016). This may result in the irritation of sensitive membranes such as the eyes, mouth, digestive and respiratory tracts, and organs. Other potential impacts include impairment of the immune system, neurological damage (Helm et al., 2015), reproductive failure, other adverse health effects such as lung disease and poor body condition, and mortality (Helm et al., 2015). Physical contact with hydrocarbons is likely to have biological consequences for these species. Given cetaceans maintain thick skin and blubber, external exposure to hydrocarbons may result in irritation to skin and eyes. Hydrocarbons may also be ingested, particularly by baleen whales (e.g. pygmy blue, humpback and southern right whales), which feed by filtering large volumes of water. Geraci (1988) identified behavioural disturbance through avoidance of spilled hydrocarbons in several species of cetacean, suggesting cetaceans can detect surface slicks. However, observations during spills have recorded larger whales (both mysticetes and odontocetes) and smaller delphinids travelling through and feeding in oil slicks. During the Deepwater Horizon spill, cetaceans were routinely seen swimming in surface slicks offshore and nearshore (Deepwater Horizon Natural Resource Damage Assessment Trustees, 2016). In a review of the impacts of large-scale hydrocarbon spills on cetaceans, it was found that exposure to oil from the Deepwater Horizon resulted in increased mortality to cetaceans in the Gulf of Mexico (Deepwater Horizon Natural Resource Damage Assessment Trustees, 2016) and long-term population-level impacts to killer whales were linked to the Exxon Valdez tanker spill (Matkin et al., 2008) Cetacean populations that reside within the EMBA may be susceptible to impacts from spilled hydrocarbons if they interact with an area affected by a spill. Such species are more likely to occupy coastal waters (refer to the 'Mainland and islands (nearshore waters)' section below for more information). Suitable habitat for oceanic toothed whales (e.g. sperm whales) and dolphins is broadly distributed throughout the region and, as such, impacts are unlikely to affect an entire population. Other species identified in Section 4.6.3 may also have transient interactions with the EMBA (refer to Table 6-20 for the list of receptor locations for cetaceans). Pygmy blue, humpback and southern right whales are known to migrate seasonally through the wider EMBA; however, the migration BIAs in the region for these species do not overlap the Operational Area. A major spill in May to November would coincide with humpback whale migration through the waters off the Pilbara, North West Cape and Shark Bay Figure 4-8). A major spill in April to August or October to January would coincide with pygmy blue whale migration (Figure 4-7) and a major spill between April and November would coincide with southern right whale migration along the Pilbara coast (Figure 4-11). Pygmy blue, humpback and southern right whales are baleen whales, so are most likely to be significantly impacted by toxic effects when feeding. However, feeding during migrations is low level and opportunistic, with most feeding occurring in the Southern Ocean. Fresh hydrocarbons (i.e. typically in the vicinity of the release location) may have a higher potential to cause toxic effects when ingested, while weathered hydrocarbons are considered less likely to result in toxic effects. As such, the risk of ingestion of hydrocarbons is low. Pygmy blue, humpback and southern right whale migrations are protracted through time and space (i.e. the whole population will not be within the EMBA), and as such, a spill from the loss of well integrity is unlikely to affect an entire population. The humpback whale calving BIA in Camden Sound and southern right whale reproduction area in Shark Bay are not predicted to be contacted by hydrocarbons above threshold concentrations. Entrained hydrocarbons above threshold levels are not predicted to extend into Exmouth Gulf, which is a resting BIA for humpback whales during their southern migration. However, they are predicted at low probabilities to travel along the outer edge of the Exmouth Gulf as they move around the North West Cape, resulting in a small section of the EMBA overlapping the outer boundary of the humpback whale resting BIA.

Summary of potential impacts to environmental value(s)	
	Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to offshore cetacean species, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and distributions. Potential impacts to inshore cetaceans and other marine mammals are discussed in the 'Mainland and islands (nearshore waters)' impacts discussion below.
	Marine turtles Adult sea turtles exhibit no avoidance behaviour when they encounter hydrocarbon spills (Aichinger Dias et al., 2017). Therefore, contact with surface slicks or entrained hydrocarbon can result in hydrocarbons adhering to body surfaces (Gagnon and Rawson, 2010) irritating mucous membranes in the nose, throat and eyes, leading to inflammation and infection (NOAA, 2010). Oiling can also irritate and injure skin, which is most evident on pliable areas such as the neck and flippers (Lutcavage et al., 1995). A stress response associated with this exposure includes an increase in the production of white blood cells, and even a short exposure to hydrocarbons may affect the functioning of the salt gland (Lutcavage et al., 1995). Hydrocarbons in surface waters may also impact turtles when they surface to breathe, as they may inhale toxic vapours. Their breathing pattern, involving large 'tidal' volumes and rapid inhalation before diving, results in direct exposure to petroleum vapours, which is the most toxic component of the hydrocarbon spill (Miltonand Lutz, 2003). This can lead to lung damage and congestion, interstitial emphysema, inhalant pneumonia, and neurological impairment (Gagnon and Rawson, 2010). Contact with entrained hydrocarbons can result in hydrocarbons adhering to body surfaces, irritating mucous membranes in the nose, throat and eyes and leading to inflammation and infection (NOAA, 2010). It is unlikely to represent important habitat for marine turtles as there is an absence of potential nesting or foraging habitat for turtles (i.e. no emergent islands, reef habitat or shallow shoals) and the water is deep (around 75 m to 130 m). However, it is acknowledged that there are significant nesting and foraging sites along the mainland coast and islands of the region, including the Barrow/Montebello/Lowendal Islands Group, and a number of BIAs overlap the EMBA (Section 4.6.2). Particularly, the internesting BIAs and habitat critical to the survival of a species for loggerhead and hawksbill turtles extend for around 20 km from known nesting locations, and for around 60 km for flatback turtles. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to offshore foraging marine turtles, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and distributions. Potential impacts to nesting and internesting marine turtles are discussed in the 'Mainland and islands (nearshore waters)' impacts discussion below.
	Sea snakes Impacts to sea snakes from direct contact with hydrocarbons are likely to result in similar physical effects to those recorded for marine turtles. They may include damage to the dermis and irritation to mucus membranes of the eyes, nose and throat (International Tanker Owners Pollution Federation, 2011a). They may also be impacted when they return to the surface to breathe and inhale the toxic vapours associated with the hydrocarbons, resulting in damage to their respiratory system. In general, sea snakes frequent the waters of the continental shelf area around offshore islands and potentially submerged shoals (water depths <100 m; see 'Submerged shoals' below). Though sea snakes may be present in the Operational Area and are present in the wider EMBA, their abundance is not expected to be high in the deepwater and offshore environment. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to offshore sea snakes, with consequence severity dependent on the duration and extent of a spill in relation to the distribution of sea snakes. Potential impacts to inshore and offshore reef-associated sea snakes are discussed in the 'Submerged shoals and banks' and 'Mainland and islands (nearshore waters)' impacts discussions below.
	Sharks, sawfish and rays Hydrocarbon contact may affect whale sharks through ingesting entrained or dissolved hydrocarbons, particularly if feeding. Whale sharks may transit offshore open waters when migrating to and from Ningaloo Reef, where they aggregate for feeding from March to July (see 'Mainland and islands (nearshore waters)' below). Whale sharks may opportunistically feed in offshore waters and the Operational Area. The EMBA overlaps the whale shark foraging BIA identified in Section 4.6.1 and Figure 4-4, within which whale sharks are seasonally present between April and October. Impacts to sharks and rays may occur through direct contact with hydrocarbons, or through contamination of the tissues and internal organs,

Summary of potential impacts to environmental value(s)	
	either through direct contact or through consuming prey. As gill-breathing organisms, sharks and rays may be vulnerable to toxic effects of dissolved hydrocarbons entering the body via the gills, and entrained hydrocarbons via coating of the gills which inhibits gas exchange. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to offshore shark, sawfish and ray species, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and distributions. Potential impacts to inshore and offshore reef-associated sharks, sawfish and rays are discussed in the 'Submerged shoals and banks' and 'Mainland and islands (nearshore waters)' impacts discussions below.
	Seabirds and/or migratory shorebirds Offshore waters are potential foraging grounds for seabirds associated with the coastal roosting and nesting habitat (e.g. Ningaloo, Muiron Islands and the Barrow/Montebello/Lowendal Islands Group). There are confirmed foraging grounds off Ningaloo and the Barrow/Montebello/Lowendal Islands Group. Foraging and reproduction BIAs for multiple seabirds and migratory shorebirds overlap with the EMBA (Section 4.6.4 and Table 4-12), specifically: • wedge-tailed shearwater (peak use August to April) • roseate tern • fairy tern • little tern • lesser frigatebird • white-tailed tropic bird • bridled tern • Caspian tern • Common noddy • Australian lesser noddy • soft-plumaged petrel • flesh-footed shearwater. Seabirds and migratory birds are particularly vulnerable to contact with floating hydrocarbons, which may mat feathers. This may lead to hypothermia from loss of insulation, and to ingestion of hydrocarbons when preening to remove hydrocarbons; both impacts could result in mortality (Hanson et al., 2007). Seabirds generally do not exhibit avoidance behaviour to floating hydrocarbons. Physical contact of seabirds with surface slicks is by several exposure pathways—primarily immersion, ingestion, and inhalation. Such contact with hydrocarbons could result in (AMSA, 2003; IPIECA, 2004: • plumage fouling and hypothermia (loss of thermoregulation) • decreased buoyancy and consequent increased potential to drown • inability to fly or feed • anaemia • pneumonia • irritation of eyes, skin, nasal cavities and mouths. Longer-term exposures may potentially impact seabird populations through loss of reproductive success, malformation of eggs or chicks (AMSA, 2003), or mortality of individuals from oiling of feathers or ingestion of hydrocarbons. A hydrocarbon spill could result in surface slicks disrupting a significant portion of the foraging habitat for seabirds, including foraging BIAs, which are generally associated with breeding habitats. Seabird distributions are typically concentrated around islands, so hydrocarbons near nesting/roosting areas could result in increased numbers of seabirds being impacted, with many species of seabirds, such as the wedge-tailed shearwater and the various species of tern, foraging relatively close to breeding islands and colonies. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to offshore seabirds and migratory shorebirds, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and

Summary of potential impacts to environmental value(s)	
	distributions. Potential impacts to coastal and offshore island associated birds are discussed in the 'Mainland and islands (nearshore waters)' impacts discussion below.
Submerged shoals and banks	***Marine turtles*** There is the potential for marine turtles to be at submerged shoals such as Rankin Bank, Glomar Shoals and Rosily Shoals. These shoals and banks may, at times, be foraging habitat for marine turtles, given the coral and filter-feeding biota associated with these areas. Satellite tracking of individual green turtles in the nearshore environment of the NWS did not indicate any overlap of the tracked post-nesting migratory routes and the Operational Area. However, it is acknowledged that individual marine turtles may be present at Glomar Shoals, Rankin Bank, Rosily Shoals and the surrounding areas. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to foraging marine turtles, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and distributions. Potential impacts to nesting and internesting marine turtles are discussed in the 'Mainland and islands (nearshore waters)' impacts discussion below.
	Sea snakes There is the potential for sea snakes to be at submerged shoals such as Glomar Shoals, Rosily Shoal and Rankin Bank. The potential impacts of exposure are as discussed previously at 'Offshore – Sea snakes'. Sea snake species in Australia generally show strong habitat preferences (International Tanker Owners Pollution Federation, 2011a); species that have preferred habitats associated with submerged shoals and oceanic atolls may be disproportionately affected by a hydrocarbon spill affecting such habitat. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to offshore reef-associated sea snakes, with consequence severity dependent on the duration and extent of a spill in relation to the distribution of sea snakes. Potential impacts to inshore sea snakes are discussed in the 'Mainland and islands (nearshore waters)' impacts discussion below.
	Sharks, sawfish and rays There is the potential for resident shark and ray populations to be impacted directly from hydrocarbon contact, or indirectly through contaminated prey or loss of habitat. Spill model results indicate Glomar Shoals, Rankin Bank, Rosily Shoals and Tryal Rocks are predicted to be contacted by dissolved hydrocarbons above threshold concentrations. Shark and ray species that are associated with submerged shoals and oceanic atolls may be more susceptible to a reduction in habitat quality resulting from a hydrocarbon spill. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to offshore reef associated shark, sawfish and ray species, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and distributions. Potential impacts to inshore associated sharks, sawfish and rays are discussed in the 'Mainland and islands (nearshore waters)' impacts discussion below.
Mainland and islands (nearshore waters)	***All species*** The information provided about protected species in this section is in addition to that provided in the preceding 'Offshore' and 'Submerged shoals and banks' sections. Refer to these preceding sections for additional discussion of protected species.
	Cetaceans and dugongs In addition to the whale species that may occur in nearshore waters, discussed in Section 4.6.3, or the full list of EPBC listed cetacean species identified by the PMST with potential to occur within the EMBA, coastal populations of small cetaceans and dugongs are known to reside or frequent nearshore waters, including the Ningaloo Coast, Muiron Islands, Montebello/Barrow/Lowendal Islands Group and the Pilbara Southern Islands Group (see Table 6-20), and may be impacted by entrained and dissolved hydrocarbons exceeding threshold concentrations in the event of a loss of well containment. The predicted EMBA extends past Exmouth Gulf towards Shark Bay. The Exmouth Gulf is a known humpback whale aggregation area on the annual southern migration (September to December); therefore, humpbacks moving into the Gulf may be exposed to hydrocarbons above thresholds levels. However, entrained and dissolved hydrocarbons concentrations above thresholds are not expected within Exmouth Gulf itself. No hydrocarbon contact at or above threshold concentrations is expected for Camden Sound, an important calving area for humpback whales. The potential impacts of exposure are as discussed previously at 'Offshore – Cetaceans'. However, nearshore populations of cetaceans and dugongs are known to exhibit site fidelity and are often

Summary of potential impacts to environmental value(s)	
	resident populations. Therefore, avoidance behaviour may have greater impacts to population functioning. Nearshore dolphin species (e.g. spotted bottlenose dolphins) may exhibit higher site fidelity than oceanic species, although Geraci (1998) observed relatively little impacts beyond behavioural disturbance. Additional potential environment impacts may also include the potential for dugongs to ingest hydrocarbons when feeding on oiled seagrass stands, or indirect impacts to dugongs due to loss of this food source due to dieback in worst-affected areas. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to inshore cetacean species and dugongs, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and distributions.
	Marine turtles Several marine turtle species use nearshore waters and shorelines for foraging and breeding (including internesting), with significant nesting beaches along the mainland coast and islands in potentially impacted locations such as the Montebello/Barrow/Lowendal Islands Group, Southern Pilbara Islands Groups and Ningaloo Reef. There are distinct breeding seasons, as detailed in Section 4.6.2. The nearshore waters of these turtle habitat areas may be exposed to surface, entrained or dissolved hydrocarbons exceeding threshold concentrations, and accumulated hydrocarbons above threshold concentrations. BIAs and habitat critical for the survival of the species have been identified for marine turtles, including reproduction and foraging areas. A hydrocarbon spill above impact thresholds in these areas could result in impacts to biologically important behaviours. During the breeding season, turtle aggregations near nesting beaches within the wider EMBA are most vulnerable due to greater turtle densities, and potential impacts may occur at the population level of some marine turtle species. The potential impacts of exposure are as discussed previously at 'Offshore – Marine turtles'. In the nearshore environment, turtles can ingest hydrocarbons when feeding (e.g. on oiled seagrass stands/macroalgae) or can be indirectly affected by loss of food source (e.g. seagrass due to dieback from hydrocarbon exposure) (Gagnon and Rawson, 2010). In addition, hydrocarbon exposure can impact turtles during the breeding season at nesting beaches. Contact with hatchlings or egg-carrying adult females may occur on nesting beaches (accumulated hydrocarbons) or in nearshore waters (entrained hydrocarbons) where hydrocarbons are predicted to make shoreline contact. Results from studies of nesting beaches subject to extensive oil pollution from the Deepwater Horizon spill indicated a significant reduction (around 44%) in turtle nest density during the nesting season immediately after the spill (Lauritsen et al., 2017). Lauritsen et al. (2017) partially attributed this reduction to direct (e.g. direct mortality of adults due to oiling or toxicity) and indirect (e.g. shoreline disturbance from response activities) impacts from the spill. There was a significant increase in nesting density in the years immediately after the spill, with nesting density returning to levels comparable to pre-spill densities within two nesting seasons (Lauritsen et al., 2017). This indicates adult female turtles that avoided mortality may have deferred nesting during the spill until subsequent years. The significant decline in nesting density observed after the Deepwater Horizon spill represents a decline of around 36% of reproductive output of the turtle population in the study area (Lauritsen et al., 2017). Because turtles may take more than a decade to reach sexual maturity, the effects of such a reduced reproductive output may take more than a decade to appear in nesting-related metrics, which are commonly used to monitor turtle populations. Based on the modelling results and the potential for impact and recovery of turtles, a worst-case hydrocarbon spill from a loss of well containment could result in reduced turtle numbers and nesting density; however, it would not be expected to result in eliminating a population. To date, no oil spills have been demonstrated to have resulted in eliminating a turtle population at any scale (Yender and Mearns, 2010). Disastrous spills impacting important turtle habitat (including nesting areas) have not been shown to eliminate turtle populations, although direct and indirect impacts have been documented (e.g. Lauritsen et al., 2017; McDonald et al., 2017, Stacy et al., 2017, Vander Zanden et al., 2016). Turtle populations have been shown to be able to recover, even when populations have been reduced to small sizes after experiencing significant declines (Mazaris et al., 2017). As such, population-scale impacts to marine turtles from a worst-case loss of well containment would be expected to exhibit recovery, although it may take several decades to reach pre-impact population levels due to the relatively long lifespan and late sexual maturity of marine turtle species. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to nesting marine turtles, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' mating and nesting seasons and overall distributions.
	Sea snakes

Summary of potential impacts to environmental value(s)	
	Impacts to sea snakes for the mainland and island nearshore waters from direct contact with hydrocarbons may occur and may include damage to the dermis and irritation to mucous membranes of the eyes, nose and throat (International Tanker Owners Pollution Federation, 2011a). Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to sea snakes, with consequence severity dependent on the duration and extent of a spill in relation to the distribution of sea snakes.
	Sharks, sawfish and rays Whale sharks and manta rays are known to frequent the Ningaloo Reef system and the Muiron Islands, forming feeding aggregations in late summer/autumn. Whale sharks and manta rays generally transit along the nearshore coastline and are vulnerable to surface, entrained and dissolved aromatic hydrocarbon spill impacts, with both taxa having similar modes of feeding. Whale sharks are versatile feeders, filtering large amounts of water over their gills, and catching planktonic and nektonic organisms (Jarman and Wilson, 2004). Whale sharks at Ningaloo Reef have been observed using two different feeding strategies: passive subsurface ram-feeding and active surface feeding (Taylor, 2007). Passive feeding involves swimming slowly at the surface with the mouth wide open. During active feeding, sharks swim high in the water, with the upper part of the body above the surface and the mouth partially open (Taylor, 2007). Individuals present in the worst-affected spill areas could ingest toxic amounts of entrained or dissolved aromatic hydrocarbons into their body. Large amounts of ingested hydrocarbons may affect endocrine and immune systems in the longer term. The presence of hydrocarbons may displace whale sharks from the area where they normally feed and rest, and potentially disrupt migration and aggregations to these areas in subsequent seasons. Whale sharks may also be affected indirectly by surface, entrained or dissolved aromatic hydrocarbons by contaminating their prey. The preferred food of whale sharks are fish eggs and phytoplankton, which are abundant in the coastal waters of Ningaloo Reef in late summer/autumn, driving the annual arrival and aggregation of whale sharks in this area. If the spill event occurred during the spawning season, this important food supply (in worst spill-affected areas of the reef) may be diminished or contaminated. The contamination of their food supply and the subsequent ingestion of this prey by the whale shark may also result in long-term impacts as a result of bioaccumulation. There is the potential for other resident shark and ray (e.g. sawfish species identified in Section 4.6.1) populations to be impacted directly from hydrocarbon contact or indirectly through contaminated prey or loss of habitat. Table 6-20 indicates the receptor locations predicted to be impacted from entrained and dissolved aromatic hydrocarbons to the benthic communities of nearshore, subtidal communities. it is considered there is the potential for habitat loss. Therefore, the consequences to resident shark and ray populations (if present) from loss of habitat could result in a disruption to a significant portion of the population; however, it is not expected to impact the overall viability of the population. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to inshore-associated shark, sawfish and ray species, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and distributions.
	Seabirds and/or migratory shorebirds In the event of a major spill, there is the potential for seabirds, and resident, non-breeding overwintering shorebirds that use the nearshore waters for foraging and resting, to be exposed to entrained, dissolved and accumulated hydrocarbons. This could result in lethal or sublethal effects. Although breeding oceanic seabird species can travel long distances to forage in offshore waters, most breeding seabirds tend to forage in waters near their breeding colony. This results in relatively higher seabird densities in these areas during the breeding season, making these areas particularly sensitive in the event of a spill. Pathways of biological exposure that can result in impact may occur through ingesting contaminated fish (nearshore waters) or invertebrates (intertidal foraging grounds such as beaches, mudflats and reefs). Ingestion can also lead to internal injury to sensitive membranes and organs (IPIECA, 2004). Whether the toxicity of ingested hydrocarbons is lethal or sublethal will depend on the weathering stage and its inherent toxicity. Exposure to hydrocarbons may have longer-term effects, impacting population numbers due to a decline in reproductive performance, malformed eggs and chicks affecting survivorship, and loss of adult birds. Important areas for foraging seabirds and migratory shorebirds are identified in Section 4.6.4. Refer to Table 6-20 for locations within the predicted extent of the EMBA that are identified as habitat for

Summary of potential impacts to environmental value(s)	
	seabirds and migratory shorebirds. Suitable habitat for seabirds and shorebirds is broadly distributed along the mainland and nearshore island coasts within the EMBA. Important nesting and resting areas include: • Muiron Islands • Ningaloo Coast • Montebello/Barrow/Lowendal Islands Group, including known nesting habitats on Boodie, Double and Middle Islands • Pilbara Southern Islands Group (refer to Section 4.6.4 for more information, including BIAs within the wider EMBA). Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to inshore-associated seabirds and migratory shorebirds, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements, breeding seasons and distributions.
Summary of potential impacts to other species	
Setting	***Receptor group***
All settings	***Pelagic fish populations*** Fish mortalities are rarely observed to occur as a result of hydrocarbon spills (International Tanker Owners Pollution Federation). This has generally been attributed to the possibility that pelagic fish can detect and avoid surface waters underneath hydrocarbon spills by swimming into deeper water or away from the affected areas. Fish that have been exposed to dissolved aromatic hydrocarbons can eliminate the toxicants once placed in clean water, so individuals exposed to a spill are likely to recover (King et al., 1996). Where fish mortalities have been recorded, the spills (resulting from the groundings of the tankers *Amoco Cadiz* in 1978 and the *Florida* in 1969) have occurred in sheltered bays. Laboratory studies have shown adult fish can detect hydrocarbons in water at very low concentrations, and large numbers of dead fish have rarely been reported after hydrocarbon spills ((Hjermann et al., 2007). This suggests juvenile and adult fish can avoid water contaminated with high concentrations of hydrocarbons. However, sublethal impacts to adult and juvenile fish may be possible, given long-term exposure (days to weeks) to polycyclic aromatic hydrocarbon (PAH) concentrations (Hjermann et al., 2007), which are typically the most toxic components of hydrocarbons. Light molecular weight aromatic hydrocarbons (i.e. one- and two-ring molecules) are generally soluble in water, which increases bioavailability to gill-breathing organisms such as fish. The effects of exposure to oil on the metabolism of fish appears to vary according to the organs involved, exposure concentrations and route of exposure (waterborne or food intake). Oil reduces the aerobic capacity of fish exposed to aromatics in the water and, to a lesser extent, affects fish consuming contaminated food (Cohen et al., 2005). The liver, a major detoxification organ, appears to be the organ where anaerobic activity is most impacted, probably increasing anaerobic activity to help eliminate ingested oil from the fish (Cohen et al., 2005). Fish are perhaps most susceptible to the effects of spilled oil in their early life stages, particularly during egg and planktonic larval stages, which can become entrained in spilled oil. Contact with oil droplets can damage feeding and breathing apparatus of embryos and larvae Fodrie and Heck, 2011). The toxic hydrocarbons in water can result in genetic damage, physical deformities and altered developmental timing for larvae and eggs exposed to even low concentrations over prolonged timeframes (days to weeks) (Fodrie and Heck, 2011). More subtle, chronic effects on the life history of fish because of exposure in early life stages to hydrocarbons include disruption to complex behaviours such as predator avoidance, reproductive and social behaviour (Hjermann et al., 2007). Prolonged exposure of eggs and larvae to weathered concentrations of hydrocarbons in water has also been shown to cause immunosuppression and to allow expression of viral diseases (Hjermann et al., 2007). PAHs have also been linked to increased mortality and stunted growth rates of early life history (pre-settlement) of reef fishes, as well as behavioural impacts that may increase predation of post-settlement larvae (Johansen et al., 2017). However, the effect of a hydrocarbon spill on a population of fish in an area with fish larvae and/or eggs, and the extent to which any of the adverse impacts may occur, depend greatly on prevailing oceanographic and ecological conditions at the time of the spill and its contact with fish eggs or larvae. Demersal species are associated with the Ancient Coastline KEF, which overlaps the Operational Area. Additional KEFs that may host relatively diverse or abundant fish assemblages compared to relatively featureless continental shelf habitats occur within the wider EMBA, specifically:

Summary of potential impacts to environmental value(s)	
	• Continental Slope Demersal Fish Communities KEF (67 km west), which has a highly diverse fish assemblage with a high degree of endemism • Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula KEF (258 km south-west), which has been shown to host demersal fish • Glomar Shoals KEF (7 km east), which is important area for commercial and recreational fish species such as Rankin cod, brown striped snapper, red emperor, crimson snapper, bream and yellow-spotted triggerfish • Mermaid Reef and Commonwealth Waters Surrounding Rowley Shoals KEF (308 km north-east), which has high species richness, high biological productivity, and hosts aggregations of marine life • Exmouth Plateau KEF (180 km west), which is an important area of biodiversity • Commonwealth Waters Adjacent to Ningaloo Reef KEF (304 km south-west), which has high biological productivity and hosts a yearly aggregation of whale sharks • Seringapatam Reef and Commonwealth Waters in the Scott Reef Complex, which are regionally important in supporting the diverse aggregations of marine life, high primary productivity, and high species richness associated with the reefs themselves. Mortality and sublethal effects may impact populations located close to a well blowout and within the EMBA for entrained or dissolved aromatic hydrocarbons (≥50 ppb). Additionally, if prey (infauna and epifauna) surrounding the well location and within the EMBA is contaminated, this can result in the absorption of toxic components of the hydrocarbons (PAHs), potentially impacting fish populations that feed on these. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to pelagic fish species, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to species' migratory movements and distributions.
Summary of potential impacts to marine primary producers	
Setting	***Receptor group***
Submerged shoals	The waters overlying Rankin Bank, Glomar Shoals, Rosily Shoals and Tryal Rocks may be exposed to dissolved hydrocarbons above threshold concentrations (≥50 ppb). Potential biological impacts could include sublethal stress and, in some instances, total or partial mortality of sensitive benthic organisms such as corals and the early life stages of resident fish and invertebrate species. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to primary producer groups.
Mainland and islands (nearshore waters)	***Coral reef*** The quantitative spill risk assessment indicates there is potential for coral reef habitat to be exposed to dissolved and entrained hydrocarbons at locations including the Montebello Islands, Barrow Island, Lowendal Islands, discrete locations within the Pilbara Islands Southern Island Group, Muiron Islands, and low potential to contact the Ningaloo Coast (Table 6-20). The shallow coral habitats are most vulnerable to hydrocarbon coating by direct contact with surface slicks when corals are exposed at spring low tides. Water-soluble hydrocarbon fractions associated with surface slicks are also known to cause high coral mortality via direct physical contact of hydrocarbon droplets to sensitive coral species, such as the branching coral species (Shigenaka, 2011). While surface slicks are not expected to form in nearshore waters, accumulated hydrocarbons along the shoreline are predicted to occur, which could impact intertidal coral habitats. The duration of surface slick contact with the reef flat may be reduced, as the slick will likely be lifted off the reef by the flooding tide; however, exposure will be prolonged where hydrocarbons adhere. There is significant potential for lethal impacts due to the physical hydrocarbon coating of sessile benthos, with likely significant mortality of corals (adults, juveniles and established recruits) at the small spill-affected areas. This particularly applies to branching corals, which are reported to be more sensitive than massive corals (Shigenaka, 2011). Exposure to entrained hydrocarbons or dissolved aromatic hydrocarbons (≥50 ppb) could result in lethal or sublethal toxic effects to corals and other sensitive sessile benthos within the upper water column, including upper reef slopes (subtidal corals), reef flat (intertidal corals) and lagoonal (back reef) coral communities. Mortality in multiple coral species is possible, which would result in a reduced coral cover and change the composition of coral communities. Sublethal effects to corals may include polyp retraction, changes in feeding, bleaching (loss of zooxanthellae), increased mucous production resulting in reduced growth rates, and impaired reproduction (Negri and Heyward, 2000). This could

Summary of potential impacts to environmental value(s)	
	result in impacts to the shallow water fringing coral communities and reefs of the offshore islands (e.g. Barrow/Montebello/ Lowendal Islands, Pilbara Southern Islands Group) and the mainland coast (e.g. Ningaloo Coast). With reference to Ningaloo Reef, wave-induced water circulation flushes the lagoon and may promote removal of entrained and dissolved hydrocarbons from this reef's habitat. Under typical conditions, breaking waves on the reef crest induce a rise in water level in the lagoon, creating a pressure gradient that drives water in a strong outward flow through channels. These channels are across as much as 15% of the length of Ningaloo Reef (Taylor and Pearce, 1999). If a spill occurs at the time of coral spawning at potentially-affected coral locations, or in the general peak period of biological productivity, there is the potential for a significant reduction in successful fertilisation and coral larval survival, due to coral's sensitivity to hydrocarbons in early life stages (Negri and Heyward, 2000). Such impacts are likely to result in a failure to recruit and settle new population cohorts. Some non-coral species may also be affected via direct contact with entrained and dissolved aromatic hydrocarbons, resulting in sublethal impacts and in some cases mortality, particularly early life-stages of coral reef animals (reef-attached fishes and reef invertebrates) which can be relatively sensitive to hydrocarbon exposure. Coral reef fish are site-attached, have small home ranges, and as reef residents they are at higher risk from hydrocarbon exposure than non-resident, more wide-ranging fish species. The exact impact on resident coral communities, which may include fringing reefs of the offshore islands and the Ningaloo Reef system, will depend on actual hydrocarbon concentration, duration of exposure, and water depth of the affected communities. Over the worst-affected sections of reef habitat, coral community live cover, structure and composition is predicted to reduce, manifested by loss of corals and associated sessile biota. Recovery of these impacted reef areas typically relies on coral larvae from neighbouring coral communities that have either not been affected or only partially impacted. For example, there is evidence Ningaloo Reef corals and fish are partly self-seeding, with the supply of larvae from locations within Ningaloo Reef critically important to maintaining healthy coral communities (Underwood, 2009). Recovery at other coral reef areas may not be aided by a large supply of larvae from other reefs, with levels of recruits after a disturbance only returning to previous levels after the numbers of reproductive corals had also recovered (Gilmour et al., 2013). Therefore, a worst-case hydrocarbon spill scenario has the potential to result in catastrophic long-term impacts to coral populations within the EMBA, with consequence severity predicted to be greatest at reefs closest to the potential release location (e.g. Montebello Islands).
	Seagrass beds/macroalgae and mangroves Spill modelling has predicted that entrained, dissolved and accumulated hydrocarbons above threshold concentrations have the potential to contact a number of discrete shoreline sensitive receptors, such as those supporting biologically diverse, shallow subtidal and intertidal communities. The variety of habitat and community types, from the upper subtidal to the intertidal zones, support a high diversity of marine life and are used as important foraging and nursery grounds by a range of invertebrate and vertebrate species. Depending on the trajectory of the entrained and dissolved plume, macroalgal/seagrass communities, including the Barrow/Montebello/Lowendal Islands, the Pilbara Southern Islands Group (documented as low and patchy cover) and the Ningaloo Coast (patchy and low cover associated with the shallow limestone lagoonal platforms), all have the potential to be exposed. See Table 6-20 for a full list of receptors within the EMBA. Seagrass in the subtidal and intertidal zones have different degrees of exposure to hydrocarbon spills. Subtidal seagrass is generally considered much less vulnerable to surface oil spills than intertidal seagrass, primarily because freshly spilled hydrocarbons, including crude oil, float under most circumstances. Dean et al. (Dean et al., 1998) found oil mainly affects flowering; therefore, species that can spread through apical meristem growth are not as affected (such as *Zostera*, *Halodule* and *Halophila* species). Seagrass in the intertidal zone is particularly vulnerable, as it may come into direct contact with surface hydrocarbons, as well as entrained components, which can smother and kill seagrasses if they coat their leaves and stems (Taylor and Rasheed, 2011). This conclusion is supported by Gallaway et al. (1981), who noted that surface hydrocarbon spills that become stranded on the seagrass and smother it during the rise and fall of the tide can result in reduced growth rates, blackened leaves and mortality. Wilson and Ralph (131) concluded that long-term impacts to seagrass are unlikely unless hydrocarbons are retained within the seagrass meadow for a sustained duration. Toxicity effects can also occur due to absorption of soluble fractions of hydrocarbons into tissues (Runcie et al., 2010). The potential for toxicity effects from entrained hydrocarbons may be reduced by weathering processes that should lower the content of soluble aromatic components before contact occurs. Exposure to entrained or dissolved aromatic hydrocarbons could result in mortality, depending on the actual concentration received and duration of exposure. Physical contact with entrained

Summary of potential impacts to environmental value(s)	
	hydrocarbon droplets could cause sublethal stress, causing reduced growth rates and reduced tolerance to other stress factors (Zieman et al., 1984). Mangrove habitat and associated mudflats and salt marsh at Ningaloo Coast (small habitat areas), the Pilbara Southern Islands Group and the Montebello Islands were identified within the EMBA (see Table 6-20 for the full list of receptors). Hydrocarbons coating prop roots of mangroves can occur from surface hydrocarbons when hydrocarbons are deposited on the aerial roots. Hydrocarbons deposited on the aerial roots can block the pores used to breathe, or interfere with the trees' salt balance, resulting in sublethal and potential lethal effects. Mangroves can also be impacted by entrained or dissolved aromatic hydrocarbons that may adhere to the sediment particles. In low-energy environments such as in mangroves, deposited sediment-bound hydrocarbons are unlikely to be removed naturally by wave action and may be deposited in layers by successive tides (NOAA, 2014). The hydrocarbons comprise a proportion of persistent residual fractions. Therefore, deposited hydrocarbons are likely to persist in the sediment, potentially causing chronic sublethal toxicity impacts beyond immediate physical and acute effects, which may delay recovery in an affected area. It can take 20 to 30 years for mangroves to recover from oil spills (NOAA, 2014); therefore, recovery from any impacts would be long-term (>10 years). Impacts from entrained or dissolved hydrocarbon may include sublethal stress and mortality to certain sensitive biota in these habitats, including infauna and epifauna. Larval and juvenile fish, and invertebrates that depend on these shallow subtidal and intertidal habitats as nursery areas, may be directly impacted due to the loss of habitats or lethal and sublethal in-water toxic effects. This could result in mortality or impairment of growth, survival and reproduction. In addition, there is the potential for secondary impacts on shorebirds, fish, sea turtles, rays and crustaceans that use these intertidal habitat areas for breeding, feeding and nursery habitat purposes. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to seagrass beds, macroalgae communities and mangroves within the EMBA, with consequence severity predicted to be greatest at receptors closest to the potential release location (e.g. Montebello Islands).
Summary of potential impacts to other habitats and communities	
Setting	***Receptor group***
Offshore	***Benthic fauna communities*** In the event of a major release at the seabed, the stochastic spill model predicted that hydrocarbons droplets would be entrained, rapidly transporting them to the sea surface. As a result, the low-sensitivity benthic communities associated with the unconsolidated, soft sediment habitat and any epifauna (filter feeders) associated with the Canyons KEF, the Continental Slope Demersal Fish Communities KEF and other KEFs (Section 4.7) within the wider EMBA are not expected to have widespread exposure to released hydrocarbons. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to seabed and associated epifauna and infauna within the EMBA, with impacts predicted to be greatest for habitats closest to the potential release location.
	Open water – productivity/upwelling Primary production by plankton, triggered by sporadic upwelling events in the offshore waters, is an important component of the primary marine food web. Planktonic communities are generally mixed, including phytoplankton (cyanobacteria and other microalgae), secondary consuming zooplankton (e.g. copepods), and the eggs and larvae of fish and invertebrates (meroplankton). Exposure to hydrocarbons in the water column can result in changes in species composition, with declines or increases in one or more species or taxonomic groups (Batten et al., 1998). Phytoplankton may also experience decreased rates of photosynthesis (Tomajka, 1985). For zooplankton, direct effects of contamination may include suffocation, changes in behaviour, or environmental changes that make them more susceptible to predation. Impacts on plankton communities are likely to occur in areas where surface, entrained or dissolved aromatic hydrocarbon threshold concentrations are exceeded, but communities are expected to recover relatively quickly (within weeks or months). This is due to high population turnover, with copious production within short generation times that also buffers the potential for long-term (i.e. years) population declines (International Tanker Owners Pollution Federation, 2011a). Therefore, a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to plankton populations within the EMBA, with impacts predicted to be greatest for habitats closest to the potential release location.

Summary of potential impacts to environmental value(s)	
	Filter feeders Hydrocarbon exposure may occur to offshore filter-feeding communities (e.g. communities on hard substrate associated with the Canyons linking the Cuvier Abyssal Plain, the Cape Range Peninsula KEF and Continental Slope Demersal Fish Communities KEF, or other locations as identified in Section 4.7), depending on the depth of the entrained or dissolved hydrocarbons. Exposure to entrained or dissolved aromatic hydrocarbons (≥50 ppb) could result in lethal or sublethal toxic effects. Sublethal impacts, including mucus production and polyp retraction, have been recorded for gorgonians exposed to hydrocarbon (White et al., 2012). Any impacts could result in localised long-term effects to community structure and habitat. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to filter feeders within the EMBA, with impacts predicted to be greatest for habitats closest to the potential release location.
Mainland and islands (nearshore waters)	***Open water – productivity/upwelling*** Nearshore waters and adjacent offshore waters surrounding the offshore islands (e.g. Montebello/ Barrow/Lowendal Islands Group) and to the west of the Ningaloo Reef system are known locations of seasonal upwelling events and productivity. The seasonal productivity events are critical to krill production, which supports megafauna aggregations such as whale sharks and manta rays in the region. This could result in lethal and sublethal impacts to a certain portion of plankton in affected areas, depending on the concentration and duration of exposure and the inherent toxicity of the hydrocarbon. However, recovery would occur (see 'Offshore' description above). Therefore, a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to plankton populations within the EMBA.
	Spawning/nursery areas Fish (and other commercially targeted taxa) in their early life stages (eggs, larvae and juveniles) are at their most vulnerable to lethal and sublethal impacts from exposure to hydrocarbons, particularly if a spill coincides with spawning seasons or reaches nursery areas close to the shore (e.g. seagrass and mangroves) (International Tanker Owners Pollution Federation, 2011a). Fish spawning, including for commercially targeted species such as snapper and mackerel, occurs in nearshore waters at certain times of the year. Nearshore waters are also inhabited by higher numbers of juvenile fishes than offshore waters. Modelling indicated that, in the event of a major spill, entrained or dissolved hydrocarbons could occur in the surface water layers above threshold concentrations in nearshore waters, including Montebello/ Barrow/Lowendal Islands Group, Pilbara Southern Islands Group, Ningaloo Coast, and the Muiron Islands. This could result in lethal and sublethal impacts to a portion of fish larvae in areas contaminated above impact thresholds, depending on the concentration and duration of exposure and the inherent toxicity of the hydrocarbon. Although spawning and nursery habitat could be impacted (e.g. mangroves and seagrass beds, discussed above), losses of fish larvae in the worst-affected areas are unlikely to be of major consequence to fish stocks, compared with significantly larger losses through natural predation, and the likelihood that most nearshore areas would be exposed is low (i.e. not all areas in the region would be affected). This is supported by a recent study in the Gulf of Mexico, which used juvenile abundance data from shallow-water seagrass meadows as indices of the acute, population-level responses of young fishes to the Deepwater Horizon spill. Results indicated there was no change to the juvenile cohorts after the Deepwater Horizon spill. Additionally, there were no significant post-spill shifts in community composition and structure, nor were there changes in biodiversity measures (Fodrie and Heck, 2011). Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts to spawning fish and/or nursery areas within the EMBA, with consequence severity dependent on the actual timing, duration and extent of a spill in relation to key spawning periods and locations.
	Non-biogenic reefs The reef communities fringing the Pilbara region (e.g. Pilbara Southern Islands Group) may be exposed to dissolved or entrained hydrocarbons (at or above threshold concentrations) and consequently exhibit lethal or sublethal impacts, resulting in partial or total mortality of keystone sessile benthos, particularly hard corals; thus, potential community structural changes to these shallow, nearshore benthic communities may occur. If these reefs are exposed to entrained or dissolved hydrocarbons, impacts are expected to result in localised long-term effects. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to non-biogenic reefs within the EMBA.

Summary of potential impacts to environmental value(s)	
	Filter feeders Hydrocarbon exposure to filter-feeding communities (e.g. Montebello Islands) may occur, depending on the depth of the entrained and dissolved aromatic hydrocarbons. See discussion above on potential impacts. Nearshore filter feeders that are present in shallower water less than 20 m may be impacted by entrained hydrocarbon through lethal and sublethal effects (see discussion for 'Offshore – Filter feeders). Nearshore filter-feeder communities identified in the Dampier Archipelago may be exposed to hydrocarbons. Such impacts could result in localised, long-term effects to community structure and habitat. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to filter feeders within the EMBA.
	Sandy shores/estuaries/tributaries/creeks (including mudflats)/rocky shores Shoreline exposure for the upper and lower areas differ. The upper shore could be exposed to surface slicks, while the lower shore is subjected to dissolved or entrained oil. Potential impacts may occur due to surface hydrocarbon contact with intertidal areas, including sandy shores, mudflats and rocky shores, as listed in Table 6-20. Hydrocarbons at sandy shores are incorporated into fine sediments through mixing in the surface layers from wave energy, penetration down worm burrows and root pores (International Petroleum Industry Environmental Conservation Association, 2000). Hydrocarbons in the intertidal zone can adhere to sand particles; however, high tide may remove some or most of the hydrocarbons back out of the sediments. Typically, hydrocarbons are only incorporated into the surface layers to a maximum of 10 cm (International Tanker Owners Pollution Federation, 2011b). It is predicted that some sandy shores along the coastline may have accumulated hydrocarbons ≥100 g/m² (see Table 6-20). As described earlier, accumulated hydrocarbons ≥100 g/m² could impact the survival and reproductive capacity of benthic epifaunal invertebrates living in intertidal habitat. The persistence of the hydrocarbons will depend on the wave exposure but can be months to years. The impact of oil on rocky shores will largely depend on the incline and energy environment. On steep/vertical rock faces on wave-exposed coasts, there is likely to be no impact from a spill event. However, a gradually sloping boulder shore in calm water could trap large amounts of oil (International Petroleum Industry Environmental Conservation Association, 2000). The impact of the spill on marine organisms along the rocky coast will depend on the toxicity and weathering of the hydrocarbon. Like sandy shores, accumulated hydrocarbons ≥100 g/m² could coat the epifauna along rocky coasts and impact the reproductive capacity and survival. The locations of rocky shores where impacts are predicted are listed in Table 6-20. Intertidal mudflats are susceptible to potential impacts from hydrocarbons, as they are typically low-energy environments and therefore trap oils. Intertidal mudflats have been identified in the EMBA along the Ningaloo Coast (see Table 6-20). The extent of oiling is influenced by the neap and spring tidal cycle, and seasonal highs and lows that affect mean sea level. Potential impacts to tidal flats include heavy accumulations covering the flat at low tide; however, it is unlikely oil will penetrate the water-saturated sediments. However, oil can penetrate fine sediments through animal burrows and root pores. It has been demonstrated that infaunal burrows allow hydrocarbons to enter subsurface sediments, where it can be retained for months. The toxicity of stranded surface hydrocarbons and the in-water toxicity of the entrained or dissolved hydrocarbons reaching the shorelines will determine impacts to marine biota such as sessile barnacle species, mobile gastropods, and crustaceans such as amphipods. Lethal and sublethal impacts may be expected where the entrained or dissolved hydrocarbon concentration threshold is >50 ppb. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to shorelines within the EMBA.
Key ecological features	***Key ecological features*** Although KEFs are primarily defined by seabed geomorphological features, they can indicate a potential for increased biological productivity and, therefore, ecological significance. The proximity of the KEFs to the PAA are listed in Section 4.7, the features of the KEFs are described in Appendix C of the accepted Julimar Operations EP (available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139). The consequences of a hydrocarbon spill from a loss of well containment event are predicted to result in moderate impacts to values of the affected KEFs (for the values of each KEF). Potential impacts include contamination of sediments, impacts to benthic sediment fauna and associated impacts to demersal fish populations, and reduced biodiversity as described above and below. Most KEFs within the EMBA have relatively broad-scale distributions and

Summary of potential impacts to environmental value(s)	
	are unlikely to be significantly impacted. KEFs within the EMBA that are not associated with broad-scale distributions are the Glomar Shoals KEF, and the Mermaid Reef and Commonwealth Waters surrounding Rowley Shoals KEF. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major long-term impacts at Rankin Bank and Glomar Shoals, with lower consequence severity predicted for other KEFs as distance increases from the potential release location. No significant impacts are predicted to other KEFs within the EMBA (i.e. consequence of no lasting effect). These KEFs cover extensive areas (as listed in Appendix C of the accepted Julimar Operations EP, available on the NOPSEMA website using the following link: https://docs.nopsema.gov.au/A1196139) and, should impacts to receptors within the KEFs (e.g., benthic communities) occur, these would be anticipated to be short lived with no permanent impacts to the KEF.
Summary of potential impacts to water quality	
Setting	***Aspect***
All settings	***Open water – water quality*** Water quality would be affected due to hydrocarbon contamination above impact thresholds. These are defined by the EMBA descriptions for each of the entrained and dissolved hydrocarbon fates and their predicted extent. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to water quality within the EMBA, with impacts predicted to be greatest for areas closest to the potential release location.
Summary of potential impacts to marine sediment quality	
Setting	***Receptor group***
Offshore	***Marine sediment quality*** Studies of hydrocarbon concentrations in deep-sea sediments in the vicinity of a catastrophic well blowout indicate hydrocarbon from the blowouts can be incorporated into sediments (Romero et al., 2015). Proposed mechanisms for hydrocarbon contamination of sediments include sedimentation of hydrocarbons and direct contact between submerged plumes and the seabed Romero et al., 2015). In the event of a major hydrocarbon release at the seabed, modelling indicates a pressurised release of hydrocarbon would form droplets that would be transported into the water column to the surface (i.e. transported away from the seabed). As a result, the extent of potential impacts to the seabed area at and surrounding the release site would be largely confined to a localised footprint. Marine sediment quality would be reduced because of hydrocarbon contamination for a small area within the immediate release site for a long to medium term, as hydrocarbons in sediments typically undergo slower weathering and degradation (Diercks et al., 2010; Liu et al., 2012). Floating and entrained hydrocarbons could sink after extensive weathering and adsorption of sediment particles, which could result in hydrocarbons deposited to the seabed in areas distant from the release location. Such hydrocarbons are expected to be less toxic due to the weathering process. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in slight, short-term impacts to offshore sediment quality within the EMBA, with impacts predicted to be greatest for areas closest to the potential release location.
Mainland and islands (nearshore waters)	***Marine sediment quality*** Entrained and dissolved hydrocarbons (at or above the defined thresholds) are predicted to potentially contact shallow, nearshore waters of identified islands and mainland coastlines. Hydrocarbons may accumulate (at or above the ecological threshold) at a range of nearshore receptors (refer to Table 6-20). Such hydrocarbon contact may lead to reduced marine sediment quality by several processes, such as adherence to sediment and deposition shores or seabed habitat. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to sediment quality within the EMBA, with impacts predicted to be greatest for areas closest to the potential release location.
Summary of potential impacts to air quality	
A hydrocarbon release during a loss of well containment could result in a short-term reduction in air quality. There is potential for human health effects on workers in the immediate vicinity of atmospheric emissions. The ambient concentrations of volatile organic compounds (VOCs) released from diffuse sources are difficult to accurately quantify, although their behaviour and fate is predictable in open offshore environments, as VOC emissions disperse rapidly by	

Summary of potential impacts to environmental value(s)	
meteorological factors such as wind and temperature. VOC emissions from a hydrocarbon release in such environments are rapidly degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals. Given the remote likelihood of occurrence of a loss of well containment, the temporary nature of any VOC emissions (from either gas surfacing or weathering of liquid hydrocarbons from a loss of well containment), the predicted behaviour and fate of VOCs in open offshore environments, and the significant distance from the Operational Area to the nearest sensitive airshed (town of Dampier, around 119 km away), a worst-case hydrocarbon spill scenario has the potential to result in minor, short-term impacts to air quality within the EMBA, with impacts predicted to be greatest for areas closest to the potential release location.	
Summary of potential impacts to protected areas	
The quantitative spill risk assessment results indicate the open-water environment protected within various Commonwealth AMPs (refer to Table 6-20) may be affected by released hydrocarbons in the event of a loss of well containment. In the remote likelihood of a major spill occurring, entrained or dissolved hydrocarbons may contact the identified key receptor locations of islands and mainland coastlines, resulting in the actual or perceived contamination of protected areas as identified for the EMBA. Impact on the protected areas is discussed in the sections above for ecological values and sensitivities, and below for socioeconomic values. Additionally, such hydrocarbon contact may alter stakeholder understanding or perception of the protected marine environment, as these represent areas largely unaffected by anthropogenic influences and contain biologically diverse environments.	
Summary of potential impacts to socio-economic value(s)	
Setting	***Receptor group***
Offshore	***Fisheries – commercial*** A hydrocarbon release during a loss of well containment event could result in direct impacts to target species of Commonwealth and State fisheries within the defined EMBA (refer Table 4-22). Lethal and sublethal effects may impact localised populations of targeted species within the EMBA for entrained or dissolved hydrocarbons (≥50 ppb). However, entrained hydrocarbons are likely to be confined in the upper water column; therefore, demersal species are less likely to be exposed to hydrocarbons than pelagic species. A major loss of hydrocarbons from the Petroleum Activity may also lead to an exclusion of fishing from the spill-affected area for an extended period. Fish exposure to hydrocarbon can result in 'tainting' of their tissues. Even very low levels of hydrocarbons can impart a taint or 'off' flavour or smell in seafood. Tainting is reversible through the process of depuration, which removes hydrocarbons from tissues by metabolic processes, although its efficacy depends on the magnitude of the hydrocarbon contamination. Fish have a high capacity to metabolise these hydrocarbons, while crustaceans (such as prawns) have a reduced ability (Yender et al., 2002). Seafood safety is a major concern associated with spill incidents. Therefore, actual or potential seafood contamination can affect commercial and recreational fishing and can impact seafood markets long after any actual risk to seafood from a spill has subsided (Yender et al., 2002). A major spill would result in establishing an exclusion zone around the spill-affected area. Fishing activities would be temporarily prohibited for a time and could have minor economic impacts on affected commercial fishing operators. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major, long-term impacts to commercial fisheries within the EMBA and socio-cultural EMBA, particularly for pelagic fisheries and fisheries with most of their effort focused within the EMBA (e.g. Pilbara Demersal Scalefish Managed Fishery and Mackerel Managed Fishery). Potential impacts to inshore fisheries are discussed in the 'Mainland and islands (nearshore waters)' impacts discussion below; the impact assessment relating to spawning is discussed above.
	Tourism, including recreational activities Recreational fishers predominantly target large tropical species, such as emperor, snapper, grouper, mackerel, trevally and other game fish. Recreational angling activities include shore-based fishing, private boat and charter boat fishing, with peak activity between April and October (Smallwood et al., 2011) for the Exmouth region. Limited recreational fishing takes place in the offshore waters of the Operational Area. Impacts on species that are recreationally fished are described above under 'Summary of potential impacts to other species'. A major loss of hydrocarbons from the Petroleum Activity may lead to exclusion of marine nature-based tourist activities, resulting in a loss of revenue for operators. Tourism is a major industry for the region and visitor numbers would likely reduce if a hydrocarbon spill were to occur, based on the perception of hydrocarbon spills and associated impacts.

Summary of potential impacts to environmental value(s)	
	Therefore, a worst-case hydrocarbon spill scenario has the potential to result in moderate, medium-term impacts to tourism and recreation within the EMBA and socio-cultural EMBA.
	Offshore oil and gas infrastructure A hydrocarbon release during a loss of well containment event could result in disruptions to production at existing petroleum facilities (platforms and FPSOs) and activities such as drilling and seismic exploration. For example, facility water intakes for cooling and fire hydrants could be shut off if contacted by floating hydrocarbons, which could in turn lead to the temporary cessation of production activities. Spill exclusion zones established to manage the spill could also prohibit access for activity support vessels and for offtake tankers approaching facilities off the North West Cape. The impact on ongoing operations of regional production facilities would depend on the nature and scale of the spill and metocean conditions. Furthermore, decisions on the operation of production facilities in the event of a spill would be based primarily on health and safety considerations. The closest production facilities are: • NRC (operated by Woodside): overlapping the Operational Area (32 km west of the Okha FPSO facility) – predicted to be contacted by floating hydrocarbons • Angel Facility (operated by Woodside): overlapping the Operational Area (18 km west of the Okha FPSO facility) – predicted to be contacted by floating hydrocarbons • GWA (operated by Woodside): 11 km from the Operational Area Operation of these facilities is likely to be affected in the event of a well blowout spill. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in slight, short-term impacts to oil and gas industry within the EMBA.
Submerged shoals	***Tourism and recreation*** A hydrocarbon release during a loss of well containment event could result in a temporary prohibition on charter boat recreational fishing, diving and any other marine nature-based tourism trips to Rankin Bank, Glomar Shoals and Rosily Shoals. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in moderate, medium-term impacts to tourism and recreational activities within the EMBA and socio-cultural EMBA.
Mainland and islands (nearshore waters)	***Fisheries – commercial*** **Nearshore fisheries and aquaculture** In a loss of well containment, there is the possibility that target species in some areas used by State fisheries could be affected, including wild oysters in the Pearl Oyster Managed Fishery that are within the EMBA and several west coast fisheries (refer to Table 4-22 for fisheries within the wider EMBA). Targeted fish, prawn, mollusc and lobster species and pearl oysters could experience sublethal stress, or in some instances mortality, depending on the concentration and duration of hydrocarbon exposure and its inherent toxicity. **Prawn managed fisheries** Modelling indicated the entrained and dissolved EMBA from a major spill may extend to nearshore waters, including the actively fished areas of the designated Onslow Prawn Managed Fishery, Exmouth Gulf Prawn Managed Fishery, Broome Prawn Managed Fishery, Nickol Bay Prawn Managed Fishery, and the Shark Bay Prawn and Scallop Managed Fishery, and managed prawn nursery areas. Note: Most of the demarcated area for the prawn managed fishery in the Exmouth Gulf is outside the EMBA. Prawn habitat usage differs between species in the post-larval, juvenile and adult stages (Dall et al., 1990) and direct impacts to benthic habitat due to a major spill have the potential to impact prawn stocks. For example, juvenile banana prawns are found almost exclusively in mangrove-lined creeks (Rönnbäck et al., 2002), whereas juvenile tiger prawns are most abundant in areas of seagrass (Masel and Smallwood, 2000). Adult prawns also inhabit coastline areas but tend to move to deeper waters to spawn. In a major spill, a range of subtidal habitats that support juvenile prawns may be exposed to hydrocarbons above impact thresholds, including: • Montebello Islands • Barrow Island • Lowendal Islands • Pilbara Northern, Middle and Southern Island Groups • Shark Bay • Ningaloo Coast.

Summary of potential impacts to environmental value(s)	
	Localised loss of juvenile prawns in the worst spill-affected areas is possible. Whether lethal or sublethal effects occur will depend on the duration of exposure, hydrocarbon concentration and weathering stage of the hydrocarbon, and its inherent toxicity. Furthermore, seafood consumption safety concerns and a temporary prohibition on fishing activities may lead to economic impacts on affected commercial fishing operators. Therefore, a worst-case hydrocarbon spill scenario has the potential to result in major, long-term impacts to commercial fisheries within the EMBA and socio-cultural EMBA.
	Tourism and recreation In the event of a major spill, the nearshore waters of offshore islands and reefs as well as the Ningaloo Coast could be reached by entrained, dissolved and floating hydrocarbons at the socio-cultural threshold (1 g/m²), depending on prevailing wind and current conditions. As these locations offer amenities such as fishing, swimming and using beaches and surrounds, they have a recreational value for local residents and visitors. If a well blowout resulted in hydrocarbon contact, there could be restricted access to beaches for a period of days to weeks, until natural weathering, tides, currents or oil spill response (e.g. shoreline clean-up if safe to do so) removes the hydrocarbons. In the event of a well blowout, tourists and recreational users may also avoid areas due to perceived impacts, including after the oil spill has dispersed. Typically, a hydrocarbon spill that results in visible slicks in coastal waters and on shorelines will disrupt recreational activities, particularly tourism and its supporting services. In the event of a well blowout, hydrocarbons may accumulate on shorelines (at or above a set threshold) (see Table 6-20 for the full list of receptors). As a result of potential accumulation on beaches, it is expected all marine-based tourism activities on the spill-affected coast and wider coastal area will temporarily cease for a period of weeks or longer, until natural weathering or tides and currents remove the hydrocarbons or clean-up operations remove beached oil. There is the potential for stakeholder perception that this environment will be contaminated over a large area and for the longer term, resulting in a prolonged period of tourism decline. Oxford Economics (Oxford Economics, 2010) assessed the duration of hydrocarbon spill-related tourism impacts and found that, on average, it took 12 to 28 months to return to baseline visitor spending. There is likely to be significant impacts to the tourism industry, wider service industry (hotels, restaurants and their supply chain) and local communities in terms of economic loss as a result of spill impacts to tourism. Recovery and return of tourism to pre-spill levels will depend on the size of the spill, effectiveness of the spill clean-up, and change in any public perceptions regarding the spill (Oxford Economics, 2010). Therefore, a worst-case hydrocarbon spill scenario has the potential to result in moderate, medium-term impacts to tourism and recreational activities within the EMBA and socio-cultural EMBA.
	Cultural values and heritage Underwater Cultural values and heritage sites (including historic shipwrecks) have been identified in the vicinity of Operational Area. The spill modelling results do not predict surface slicks will contact any identified wrecks. However, shipwrecks occurring in the subtidal zone will be exposed to entrained and dissolved hydrocarbons, and marine life that shelter and take refuge in and around these wrecks may be affected by in-water toxicity of dispersed hydrocarbons. The consequences of such hydrocarbon exposure may include large fish species moving away, and resident fish species and sessile benthos such as hard corals exhibiting sublethal and lethal impacts (which may range from physiological issues to mortality). Additionally potential impacts to cultural significant marine species are discussed in the sections above. Entrained hydrocarbons above threshold concentrations (>50 ppb) and accumulated hydrocarbons above the socio-economic threshold (>10 g/m²) are predicted at the Montebello, Barrow and Muiron islands, and Pilbara Southern Islands Group islands. Coastlines have the potential for archaeological sites such as fish traps and shell middens. Artefact scatters and rock shelters are likely on land above the high water mark on Barrow and Montebello islands; therefore, no contact by surface or accumulated hydrocarbons is predicted for these areas. Within the wider EMBA are several designated heritage places (Section 4.9). These places are also covered by other designations such as WHA. Potential impacts are discussed in the sections above.

MEE-01 loss of well containment – risk analysis
Bowtie risk analysis was undertaken to assess MEE-01; refer to Figure 6-5, Figure 6-6, and Figure 6-7 for bowtie diagrams.

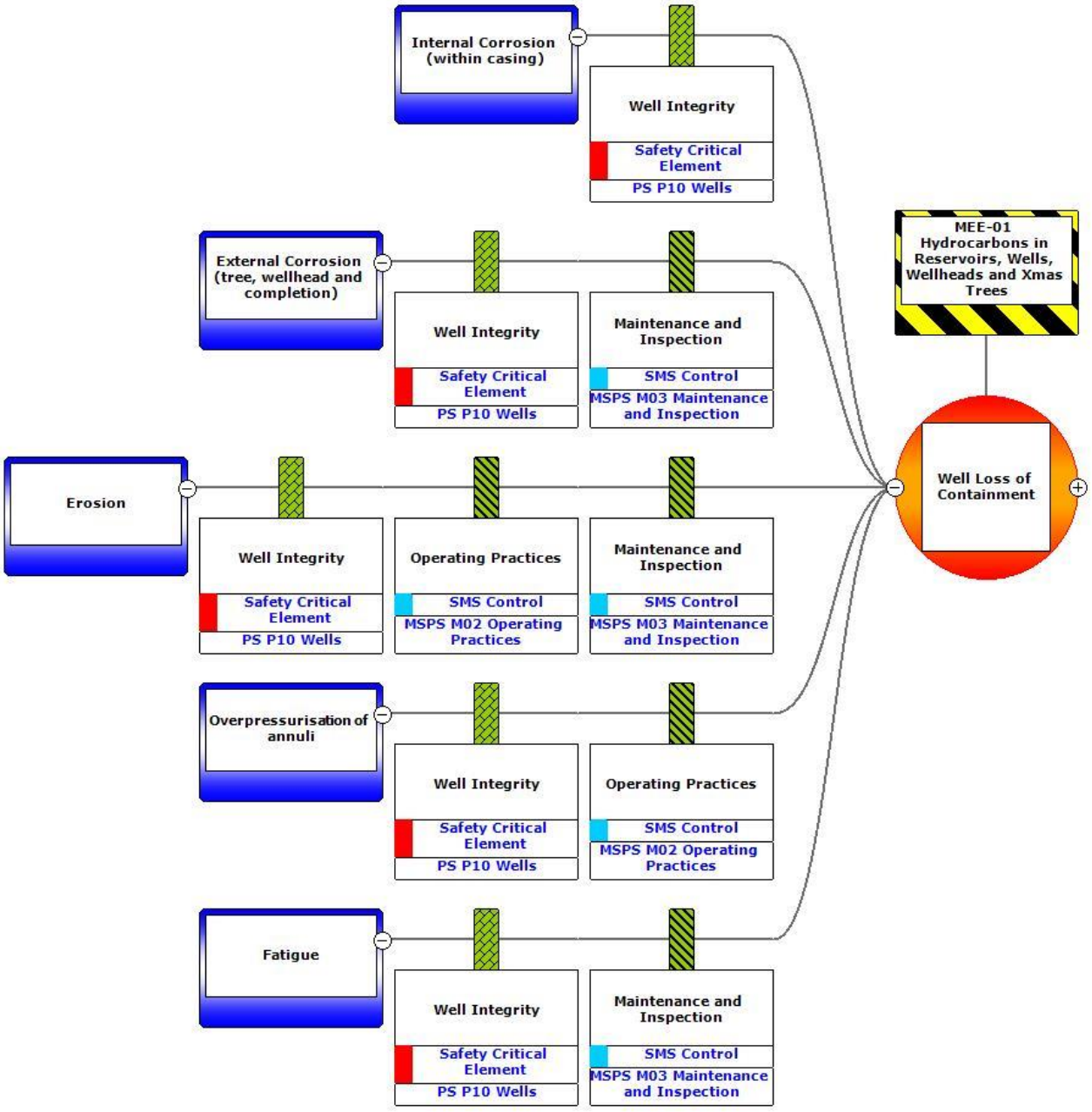


Figure 6-5: MEE-01 wells loss of containment (causes 1 to 5)

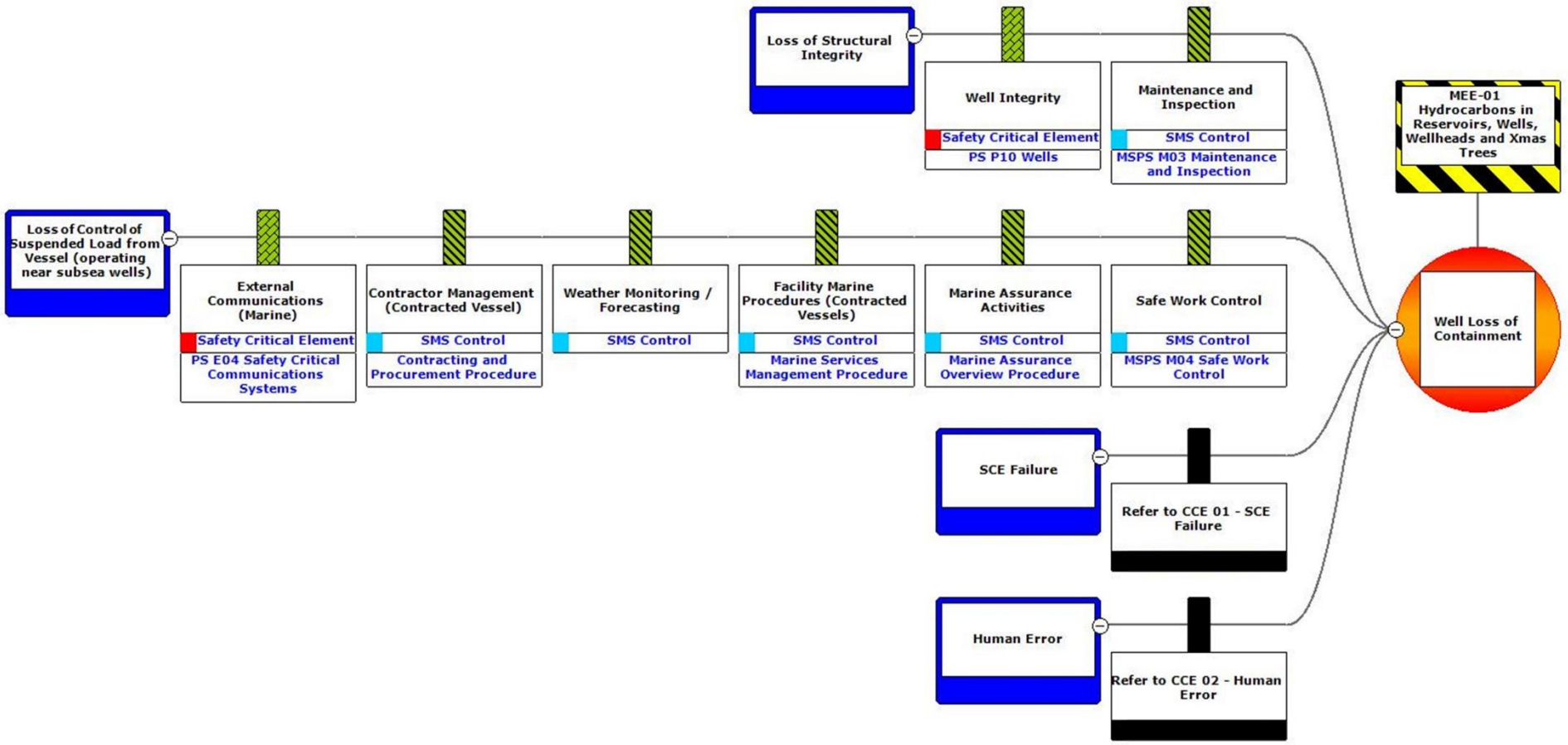


Figure 6-6: MEE-01 wells loss of containment (causes 6 to 9)

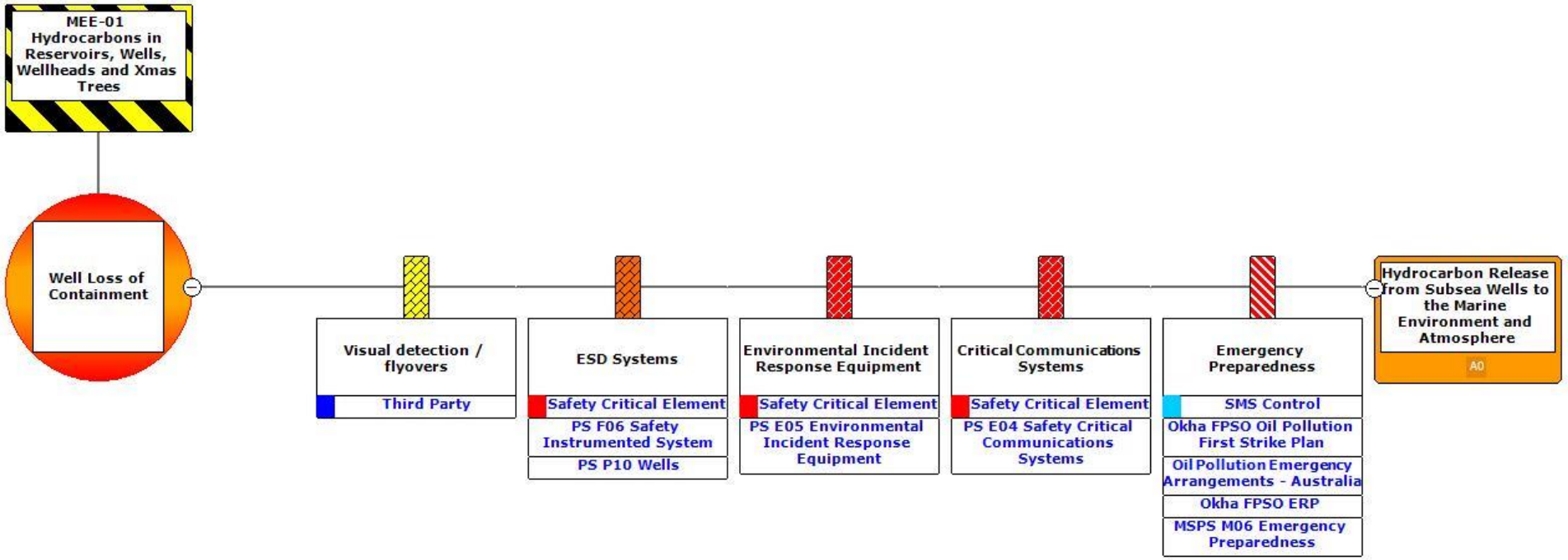


Figure 6-7: MEE-01 wells loss of containment (outcomes)

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Preventive barriers – safety and environmental critical elements				
Elimination	N/A.	No elimination or substitution controls were identified beyond those incorporated in design.		
Substitution				
Engineering controls	Maintain well mechanical integrity to contain reservoir fluids within the well envelope to avoid a MEE.	P10 – Wells	Prevention (technical)	C 12.1
Mitigating barriers – safety and environmental critical elements				
Engineering controls	Maintain availability of external and internal communication systems	E04 - Safety Critical Communication	Mitigation (technical)	C 12.2
Engineering controls	Maintain emergency shutdown system to isolate hazardous inventories.	F06 – Safety Instrumented System P10 – Wells	Reduction (technical)	C 12.3
Emergency response	Maintain environmental incident response equipment to enact the Okha FPSO facility Oil Pollution First Strike Plan (Appendix H).	E05 – Environmental Incident Response Equipment	Mitigation (technical)	C 12.4
Legislation, codes and standards				
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Response Management and Administration) Regulations 2011: Accepted Well Operations Management Plan.	Okha FPSO facility WOMP	Prevention/ mitigation (administration)	C 12.5
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024: Accepted Safety Case for	CWLH Okha FPSO facility Safety Case	Prevention/ mitigation (administration)	C 12.6

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
	the Okha FPSO facility.			
Procedures and administration	Incident reports are raised for unplanned releases within event reporting system.	Health, Safety and Environment Event Reporting and Investigation Procedure	Prevention/ mitigation (administration)	C 12.7
Management system specific measures – key standards or procedures				
Procedures and administration	Implement management systems to maintain: • M02 Operating Practices • M03 Maintenance and Inspections • M04 Safe Work Control • Marine Operations Standard • Marine Assurance Overview Procedure • Contracting and Procurement Procedure • FPSO Cyclone Evasion Procedure.	Management System Performance Standard (MSPS)-02 Operating Practices MSPS-03 Maintenance and Inspections MSPS-04 Safe work Control Marine Operations Standard Marine Assurance Overview Procedure Contracting and Procurement Procedure FPSO Cyclone Evasion Procedure	Prevention (administration)	See Section 7 Implementation Strategy
Emergency response and contingency planning	Implement management systems to maintain: • M06 Emergency Preparedness • Okha FPSO facility Emergency Response Plan • Okha FPSO facility Oil Pollution First Strike Plan (Appendix H)	MSPS-06 Emergency Preparedness Okha FPSO facility Emergency Response Plan Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) Oil Pollution Emergency Arrangements – Australia	Mitigation (administration)	See Section 7 Refer to Appendix G for discussion around the ALARP assessment of controls related to hydrocarbon spill response

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
	• Oil Pollution Emergency Arrangements – Australia.			

Risk-based analysis

For risks identified as MEEs, a more detailed risk-based bowtie analysis (as outlined in Section 2.3.3) has been used to identify, analyse and demonstrate ALARP controls for each MEE. ALARP controls have been selected using the hierarchy of control principles and considering the independence of each barrier and their type of effect in controlling the hazardous event.

By applying Woodside Risk Management Procedures and implementing the Okha Safety Case, hazards are continuously identified, risks are systematically assessed, and alternative control measures are continuously assessed to reduce risk to ALARP, which include:

- ongoing hazard identification, risk assessment and identification of control measures
- ongoing integrity management of hardware control measures in accordance with the technical performance standards, which define requirements to be suitably maintained such that they retain effectiveness, functionality, availability and survivability.

For each SCE, detailed requirements for equipment functionality, availability, reliability and survivability are incorporated into SCE technical performance standards, which also include the relevant assurance tasks (e.g. inspection, maintenance, testing and monitoring requirements) to ensure technical integrity.

Bowtie analysis was undertaken to assess MEE-01; refer to Figure 6-5 to Figure 6-7 for bowtie diagrams.

A quantitative spill risk assessment was undertaken (refer to Section 6.7.1 for details of spill modelling methodology).

Company values

Corporate values require all personnel at Woodside to comply with appropriate policies, standards, procedures and processes while being accountable for their actions and holding others to account in line with Our Values. As detailed above, the Petroleum Activity is undertaken in line with these policies, standards and procedures that include suitable controls to prevent loss of well containment, and response should a loss of well containment occur.

Societal values

Due to the Petroleum Activities EMBA extent, the loss of well containment risk rating presents a Decision Type B in accordance with the decision support framework described in Section 2.2.4.2. Extensive consultation was undertaken for this program to identify the views and concerns of relevant persons, as described in Section 5.

Woodside has sent an Activity Factsheet to all identified relevant persons regarding the Petroleum Activity (Section 5). Woodside has consulted with the WA Department of Transport (DoT) on spill response strategies.

ALARP statement:

On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts and risks of a very low likelihood unplanned hydrocarbon release as a result of a loss of well containment.

The principle of inherent safety and environmental protection is based on prevention of the MEE through design of well integrity, ensuring the wells are operated within their design envelope through operating practices, and assurance through maintenance and inspection. If hydrocarbon loss of containment occurs, mitigation measures are in place to minimise the consequence, by limiting the inventory which can be released and implementing remediation.

The controls in place for prevention and mitigation of MEEs are specified and assured through implementing the WOMP, Management of Hardware Controls in the Operate Phase Procedure including performance standards for SCEs, and Management System Performance Standards (MSPSs) for Safety Critical Management System Controls.

The application of Woodside Risk Management Procedures and implementation of the WOMP ensures the continuous identification of hazards, systematic assessment of risks and ongoing assessment of alternative control measures to reduce risk to ALARP, which includes:

- ongoing hazard identification, risk assessment and the identification of control measures
- ongoing integrity management of hardware control measures in accordance with the technical performance standards which define requirements to be suitably maintained, such that they retain effectiveness, functionality, availability and survivability well integrity codes and standards.

On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
adopted controls appropriate to manage potential impacts associated with unplanned hydrocarbon release from a loss of well containment. As no reasonably practicable alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of acceptability

Acceptability statement:

The impact assessment has determined that, given the adopted controls, an unplanned hydrocarbon release from loss of well containment could result in a severe impact on environmental features or areas of heightened sensitivity with limited ability to recover.

Acceptability is demonstrated with regard to the considerations below.

Principles of ESD

Woodside has a strong history of exploring and developing oil and gas reserves in the north-west of WA with an excellent environmental record, while providing revenue to State and Commonwealth governments, returns to shareholders, and jobs and support to local communities. Titles for oil and gas exploration are released based on commitments to explore with the aim of uncovering and developing resources. It is under the lease agreement that Woodside has determined the potential to develop the hydrocarbon fields for which acceptance of this EP is sought under the Environment Regulations.

Woodside has established research projects to understand the marine environments in which they operate, notably in the Exmouth Region and the Kimberley Region, including Rankin Bank, Glomar Shoals, Enfield Canyon and Scott Reef. Where scientific data do not exist, Woodside has assumed a pristine natural environment exists and, therefore, implements all practicable steps to prevent damage. Woodside's corporate values require that we consider the environment and communities in which we operate when making decisions.

Woodside looks after the communities and environments in which it operates. Risks are inherent in petroleum activities; however, through sound management and systematic application of policies, standards, procedures and processes, Woodside considers that despite this risk, the extremely low likelihood of loss of well containment is acceptable.

Internal context

The Petroleum Activity is consistent with Woodside corporate policies, standards, procedures, processes and training requirements, as outlined in 'Demonstration of ALARP' and the EPOs, including:

- Woodside Environment and Biodiversity Policy (Appendix A)
- the SCE performance standards developed and implemented for the Okha FPSO facility.

Oil spill preparedness and response strategies are considered applicable to the nature and scale of the risk and associated impacts of the response are considered reduced to ALARP (Appendix G).

Monitoring and evaluation (operational monitoring) as a key response in the unlikely event of a hydrocarbon release will enable Woodside to assess and track the extent of the hydrocarbon contact and revise the predicted extent of impact.

In addition, the planning area for operational and scientific monitoring (refer to Annex C of the Oil Spill Preparedness and Response Mitigation Assessment - Appendix G) can be re-assessed in the unlikely event of hydrocarbon release, considering the conservation values and socio-cultural values of State and Commonwealth protected areas (including AMPs), National and Commonwealth Heritage listed places, tourism and recreation, and fisheries. The post-response scientific monitoring plan will consider assessment and monitoring in line with the affected receptors, such as habitat and species, AMPs and fisheries.

External context – societal values

Woodside recognises its licence to operate from a regulator and societal perspective is based on historical performance, complying with appropriate policies, standards and procedures, and understanding the expectations of external stakeholders. External stakeholders were consulted before starting the Petroleum Activity, specifically:

- AMSA and WA Department of Transport (DoT) were consulted on the activity. DoT was provided with a copy of the Okha Oil Pollution First Strike Plan (Appendix H) detailing selected spill response strategies.
- other relevant stakeholders (Section 5), incorporating stakeholder feedback into this EP where appropriate.

By providing hydrocarbon spill response measures that are commensurate with the risk rating, location and sensitivity of the receiving environment (including social and aesthetic values), Woodside believes this addresses societal concerns to an acceptable level.

Demonstration of acceptability
Other requirements (includes laws, policies, standards and conventions) The Petroleum Activity is consistent with laws, policies, standards and conventions, including: • accepted Safety Case (as per the requirements of the Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024 • mutual aid memorandum of understanding for relief well drilling is in place • accepted WOMP, as per the requirements of the Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011 • notification of reportable and recordable incidents to NOPSEMA, if required, in accordance with Section 7 • objectives in the Ningaloo management plans (Management Plan for Ningaloo Marine Park and Muiron Islands Marine Management Areas, Ningaloo Marine Park Management Plan) with regards to water quality, coral, shoreline and intertidal, macroalgal, seagrass, mangroves, seabirds, and social and economic values.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 12 No unplanned release of hydrocarbons to the marine environment due to well loss of containment.	C 12.1 Maintain well mechanical integrity to contain reservoir fluids within the well envelope to avoid an MEE.	PS 12.1 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standards to prevent environment risk related damage to SCEs for: • P10 – Wells, To ensure a well retains the mechanical integrity to contain reservoir fluids within the well envelope at all times to avoid an MEE. Including operate-phase environmentally critical equipment for pressure containment, structures, monitoring and isolating systems associated with the well.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.2 Maintain availability of critical external and internal communication systems.	PS 12.2 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standards to prevent environment risk related damage to SCEs for: • E04 – Safety Critical Communications, to allow effective emergency response communications in emergencies, including: • internal communications such as audible and visual warning systems and voice communications • external communications such as voice communications to	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		adjacent facilities, aircraft and vessels, and external incident control centres.	
	C 12.3 Maintain emergency shutdown system to isolate hazardous inventories.	PS 12.3 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.1.5) and SCE technical performance standards to prevent environment risk related damage to SCEs for: • F06 – Safety Instrumented System • P10 – Wells, To respond to predefined initiating conditions and initiate responses that put the process plant, equipment, and the wells in a safe condition so as to prevent or mitigate the effects of a MEE.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.4 Maintain environmental incident response equipment to enact the Okha FPSO facility Oil Pollution First Strike Plan (Appendix H).	PS 12.4 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • E05 – Environmental Incident Response Equipment, Including: • satellite tracking drifter buoy able to monitor spill movement • sufficient hydrocarbon spill response equipment for control and clean-up of liquid hydrocarbon spills to ocean • minimum equipment coverage to maintain adequate spill response capability.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.5 Offshore Petroleum and Greenhouse Gas Storage (Response Management and Administration) Regulations 2011: Accepted Well Operations Management Plan.	PS 12.5.1 An accepted WOMP is implemented, and well integrity notification and reporting are undertaken in accordance with the Regulations (as applicable).	MC 12.5.1 Acceptance letter from NOPSEMA demonstrates acceptance of the WOMP. Records demonstrate applicable NOPSEMA notification and reporting.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		PS 12.5.2 An accepted WOMP is implemented that covers planned sail away activities while the FPSO is off-station for a planned extended duration.	MC 12.5.2 Acceptance letter from NOPSEMA demonstrates acceptance of the WOMP. Records demonstrate implementation of WOMP prior to sail-away.
	C 12.6 Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024: Accepted Safety Case for the Okha FPSO facility.	PS 12.6 An accepted Safety Case is implemented, and safety notification and reporting are undertaken in accordance with the Regulations (as applicable).	MC 12.6.1 Acceptance letter from NOPSEMA demonstrates acceptance of the Safety Case. Records demonstrate applicable NOPSEMA notification and reporting.
	C 12.7 Incident reports are raised for unplanned releases within event reporting system.	PS 12.7 Incident reports raised for unplanned releases. Relevant entities notified of recordable incidents.	MC 12.7.1 Records demonstrate incident reports raised for unplanned releases, and applicable recordable incident notifications completed.
EPO 2 Woodside will actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural values and heritage.	C 2.1 Refer to Section 6.6.1	PS 2.1.1 Refer to Section 6.6.1	MC 2.1.1 Refer to Section 6.6.1.
		PS 2.2.1 Refer to Section 6.6.1	MC 2.2.1 Refer to Section 6.6.1.

6.7.5 Unplanned hydrocarbon release: subsea infrastructure loss of containment (MEE-02)

Context		
Subsea infrastructure – Section 3.5.3 IMMR activities – Section 3.7	Physical environment – Section 4.4 Biological environment – Section 4.5 Protected species – Section 4.6 Key ecological features – Section 4.7 Protected places – Section 4.8 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Release of hydrocarbons resulting from subsea infrastructure loss of containment	X	X	X	X	X	X	B	C	2	M	LCS GP PJ RBA CV SV	Acceptable if ALARP	EPO 13

Description of source of risk

Background

The subsea production system comprises wells linked to subsea manifolds via flexible jumpers and spool tie-ins. The subsea manifolds are then connected via flexible flowlines, which are tied back to the FPSO through five flexible risers (three production, one gas lift, one gas export). Gas is exported from the facility through a flexible riser from the RTM to a riser base, where it connects to an 8-inch flexible flowline, around 410 m long. The 8-inch flexible flowline connects to the Wanaea PLEM via a hydraulically operated subsea isolation valve. A 20 m rigid steel spool piece is located after the Wanaea PLEM, which links to the 12-inch concrete-coated WC GEL.

The hazard associated with this MEE is liquid hydrocarbons conveyed in the subsea infrastructure (flowlines, risers and associated equipment). The MEE associated with this hazard is loss of containment from the largest inventory subsea production flowline, resulting in a liquid hydrocarbon release to the environment. Whilst a credible release scenario, a loss of containment from a single riser does not result in an MEE as the release volume is lower, compared to a loss of containment from the largest inventory subsea production flowline.

A loss of subsea equipment containment could occur because of:

- internal corrosion
- external corrosion
- erosion
- excessive temperature
- equipment fatigue (risers and structural supports)
- pipeline stability and freespans
- trawling/anchor impact/dragging
- loss of control of suspended load from vessel (operating near flowline).

Escalation from other MEEs can cause subsea infrastructure loss of containment, specifically:

- loss of structural integrity (MEE-06) (Section 6.7.9)

- loss of marine vessel separation (MEE-07) (Section 6.7.10)
- loss of control of suspended load from facility lifting operations (MEE-08) (Section 6.7.11).

Common failure causes from human error and SCE failures are presented in the generic human error and SCE failure bowties in Section 6.7.13.

Subsea infrastructure loss of containment – credible scenario

The worst-case credible hydrocarbon release scenario is rupture of the 8-inch production flowline, which holds the largest liquid hydrocarbon inventory within the Okha subsea system. This could result in a release of up to 414 m³ of oil, based on an instantaneous, full-bore release, before wells are shut in within (conservatively) one hour of the rupture. After the wells are shut in, it is assumed remaining oil within the flowline will continue to be released gradually to the seabed for 72 hours. The rupture location is assumed to be near the Lambert-Hermes manifold, which is the lowest point of the 8-inch production line. The subsea infrastructure loss of containment scenario parameters are summarised in Table 6-21.

Table 6-21: Summary of worst-case subsea loss of containment hydrocarbon release scenario

Scenario	*Hydrocarbon*	*Duration (hrs)*	*Depth (m)*	*Latitude (WGS84)*	*Longitude (WGS84)*	*Total oil release volume (m³)*
Rupture of 8-inch production flowline (near Lambert-Hermes manifold)	Cossack light crude	72	95	19° 30' 48.75" S	116° 28' 8.07" E	414

Decision type, risk analysis and ALARP tools

Woodside has a good history of implementing industry standard practice in subsea system design and construction. In the company's recent history, it has not experienced any subsea integrity events that have resulted in significant environmental impacts. The Okha FPSO facility has never experienced a worst-case subsea loss of containment in its operational history.

Decision type

Decision Type B has been applied to this risk under the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). This reflects the complexity of the risk, the higher potential consequence, and stakeholder implications if the event is realised. To align with this decision type, a further level of analysis has been applied using risk-based tools, including the bowtie methodology (described in Section 2.3.3) and hydrocarbon spill trajectory modelling. Company and societal values were also considered when demonstrating ALARP and acceptability, through peer review, benchmarking and stakeholder consultation.

The release of hydrocarbons as a result of subsea infrastructure loss of containment is considered a major environment event (MEE-02). The hazard associated with this MEE is liquid hydrocarbons conveyed in Okha FPSO facility subsea infrastructure (flowlines, risers and associated equipment). Note that Woodside has assessed the environmental consequence of a worst-case credible loss of containment from subsea infrastructure as 'C', as per the Woodside Risk Matrix. Woodside has also assessed the reputational and brand consequences associated with this release and concluded that the event will result in a 'B' level consequence, and hence meets Woodside's definition of an MEE (refer to Section 2.3.2).

Quantitative spill risk assessment

Spill modelling of a larger volume (773 m³) of Cossack light crude, at the same location and depth in Table 6-21, was undertaken previously by RPS (RPS, 2019), on behalf of Woodside, to determine the fate of hydrocarbon released in a worst-case credible subsea infrastructure loss of containment scenario. The modelled release volume (773 m³) was based on rupture of both the 8-inch production flowline and 6-inch dual-purpose flowline. Since undertaking this modelling, the 6-inch dual purpose line has been converted to gas lift. Hence, the current worst-case credible hydrocarbon release scenario considers rupture of the 8-inch production flowline only. This previous modelling is considered appropriate and conservative to inform spill risk assessment for the current scenario outlined in Table 6-21.

Modelling was undertaken over all seasons to address year-round operations. This is considered to provide a conservative estimate of the EMBA and the potential impacts from the identified worst-case credible release volumes for all subsea loss containment scenarios.

Refer to Section 6.7.2 for the quantitative spill risk assessment methodology and Section 6.7.2.1 for a description of Cossack light crude characteristics used to model this scenario.

Likelihood

In accordance with the Woodside Risk Matrix, given the prevention and mitigation measures in place (i.e. design, inspection and maintenance, flowline marked on marine charts), the likelihood of a subsea loss of containment has been defined as Unlikely (2).

Consequence

The spatial extent and fate (incl. weathering) of the spilled hydrocarbon were considered during the impact assessment for a worst-case subsea infrastructure loss of containment (presented in the next section). These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS, available information on environmental sensitivities that may credibly be impacted in the event of a worst-case spill (Section 6.7.3), and relevant literature and studies considering the effects of hydrocarbon exposure.

Consequence assessment

Environmental value(s) potentially impacted

Modelling of the credible worst-case hydrocarbon spill scenario that may arise from MEE-02 indicates the spill will remain offshore. The biological consequences of such a spill on identified open-water sensitive receptors relate to the potential for moderate, medium-term impacts to megafauna, plankton and fish populations (surface and water column biota) that are within the spill-affected area. Potential impacts of a hydrocarbon spill to these receptors are considered in MEE-01 (Section 6.7.3).

Surface hydrocarbons

The modelled surface hydrocarbons are forecast to drift down-current of the release location. The trajectory will depend on prevailing wind and current conditions at the time and may extend up to 15 km from the release site. Modelling results indicate no contact with sensitive receptors by surface (floating) hydrocarbons above the ecological impact threshold of 10 g/m² or socio-cultural impact threshold of 1 g/m² at probabilities of 1% or greater.

Entrained hydrocarbons

Modelling results indicate no contact with sensitive receptors by entrained hydrocarbons above the ecological and socio-cultural impact threshold of 100 ppb at probabilities of 1% or greater.

Dissolved hydrocarbons

Modelling results indicate no contact with sensitive receptors by dissolved hydrocarbons above the ecological and socio-cultural impact threshold of 50 ppb at probabilities of 1% or greater.

Accumulated hydrocarbons

Modelling results indicate no contact with sensitive receptors by accumulated shoreline hydrocarbons above the ecological impact threshold of 100 g/m² at probabilities or 1% of greater, nor above the socio-cultural threshold of 10 g/m².

MEE-02 subsea infrastructure loss of containment – risk analysis

Bowtie risk analysis was undertaken to assess MEE-02; refer to Figure 6-8 to Figure 6-11.

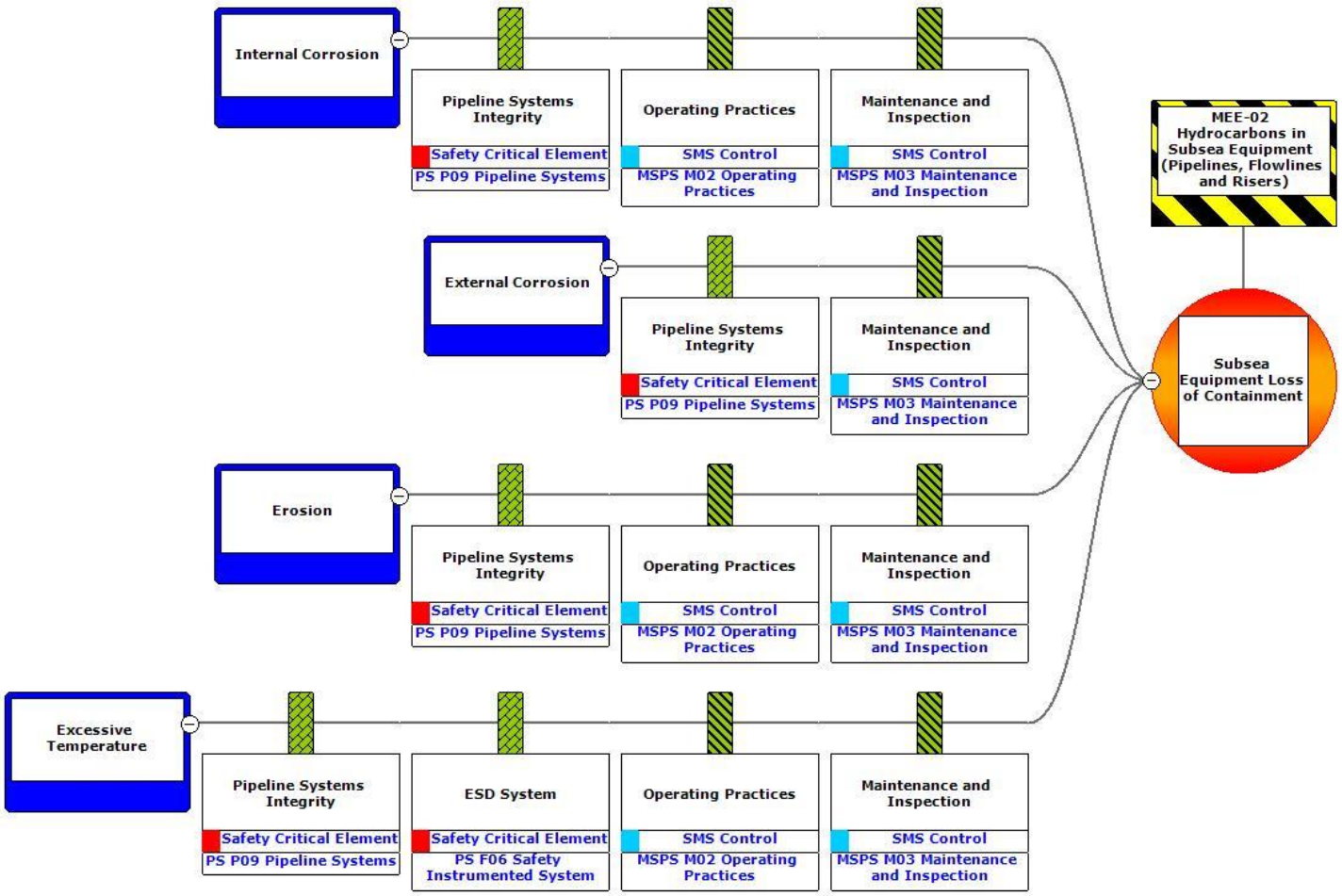


Figure 6-8: MEE-02 subsea infrastructure loss of containment (causes 1 to 4)

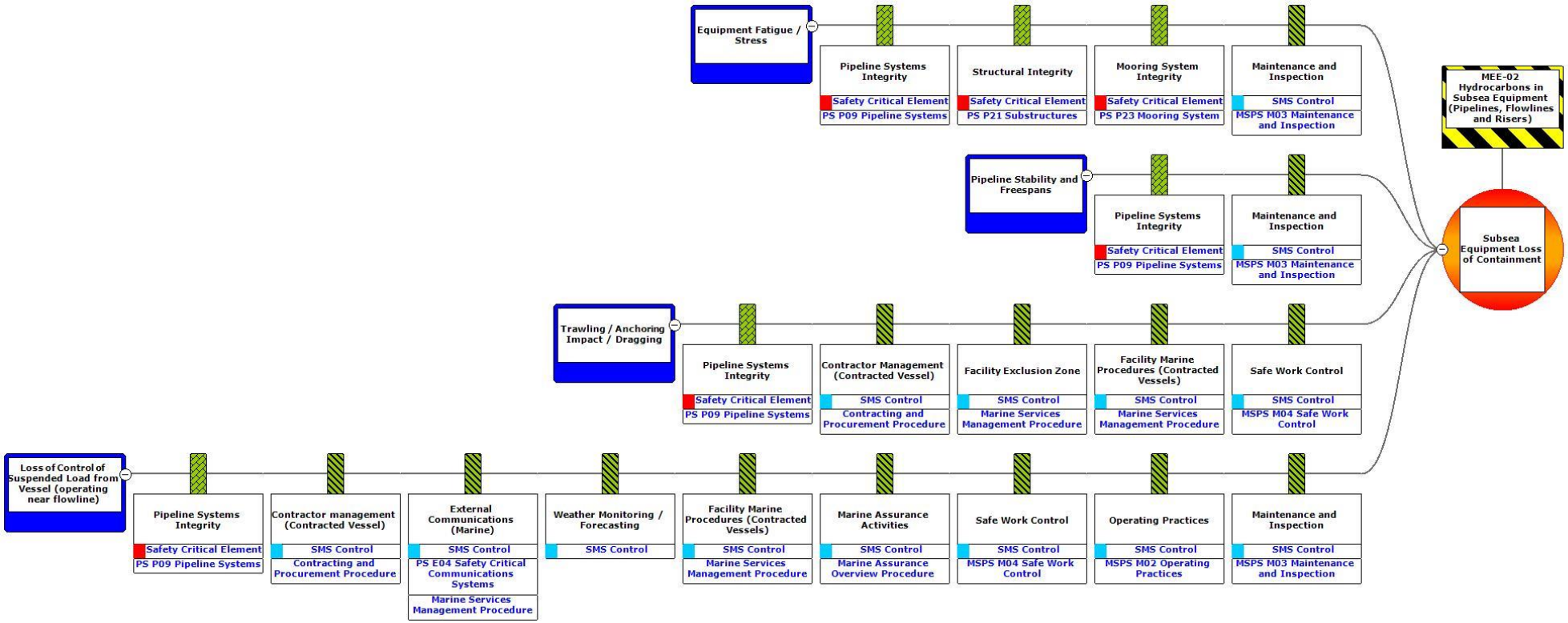


Figure 6-9: MEE-02 subsea infrastructure loss of containment (causes 5 to 8)

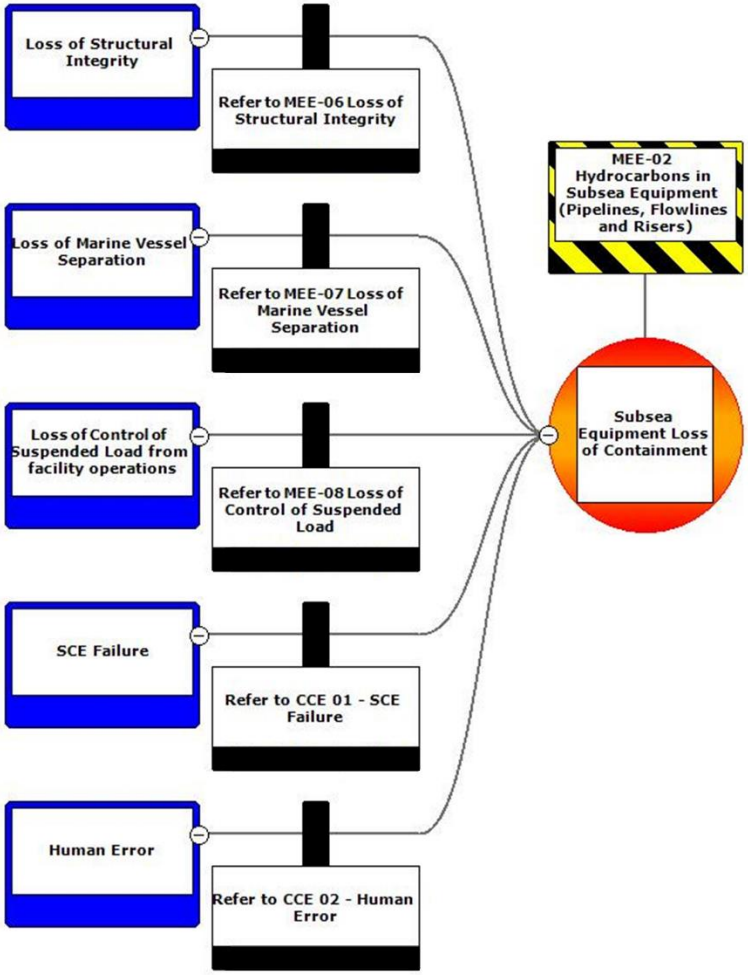


Figure 6-10: MEE-02 subsea infrastructure loss of containment (causes 9 to 13)

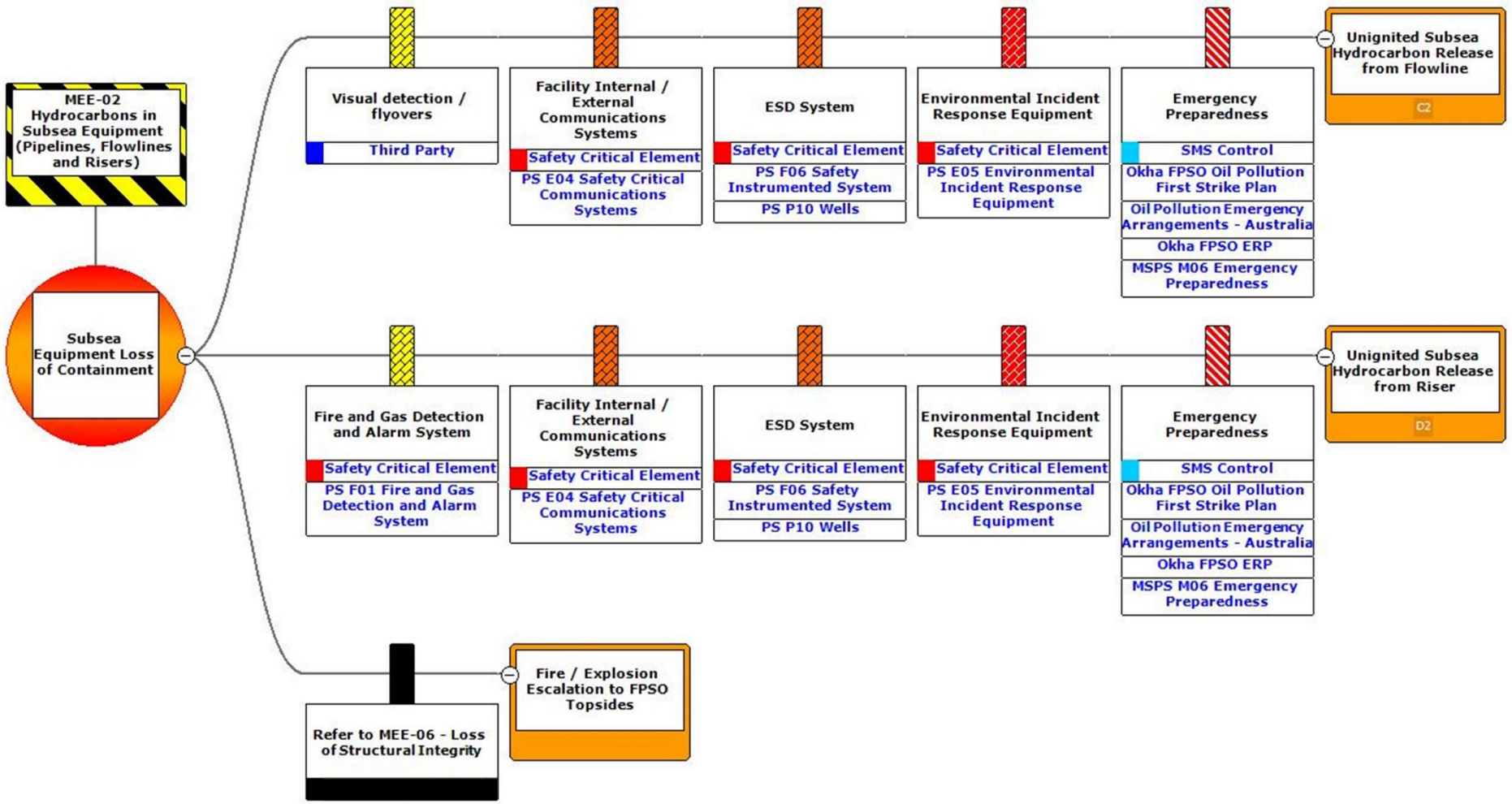


Figure 6-11: MEE-02 subsea infrastructure loss of containment (outcomes)

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Preventive barriers – safety and environmental critical elements				
Elimination	N/A.	No elimination or substitution controls were identified beyond those incorporated in design.		
Substitution				
Engineering controls	Maintain flowline, riser and hydrocarbon-containing infrastructure integrity to avoid a MEE.	P09 – Pipeline Systems P21 – Substructures P23 – Mooring Systems F06 – Safety Instrumented System	Prevention (technical)	C 13.1
Mitigating barriers – safety and environmental critical elements				
Engineering controls	Maintain availability of critical external and internal communication systems.	E04 – Safety Critical Communications	Reduction (technical)	C 12.2
Engineering controls	Maintain fire and gas detection and alarm systems on the Okha FPSO facility.	F01 – Fire and Gas Detection and Alarm System	Detection (technical)	C 13.2
Engineering controls	Maintain emergency shutdown system to isolate hazardous inventories.	F06 – Safety Instrumented System P10 – Wells	Reduction (technical)	C 12.3
Emergency response	Maintain environmental incident response equipment to enact the Okha FPSO facility Oil Pollution First Strike Plan (Appendix H).	E05 – Environmental Incident Response Equipment	Mitigation (technical)	C 12.4
Legislation, codes and standards				
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024: Accepted Safety Case for the Okha FPSO facility.	Okha FPSO facility Safety Case	Prevention/ mitigation (administration)	C 12.6
Procedures and administration	Incident reports are raised for unplanned releases within event reporting system.	Woodside Health, Safety and Environment Event Reporting and Investigation Procedure	Prevention/ mitigation (administration)	C 12.7
Management system specific measures – key standards or procedures				
Procedures and administration	Implement management systems to maintain: • M02 Operating Practices • M03 Maintenance and Inspections • M04 Safe Work Control • Marine Operations Standard • Marine Assurance Overview Procedure • Contracting and Procurement Procedure.	MSPS-02 Operating Practices MSPS-03 Maintenance and Inspections MSPS-04 Safe work Control Marine Operations Standard Marine Assurance Overview Procedure Contracting and Procurement Procedure	Prevention (administration)	See Section 7 Implementation Strategy

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Emergency response and contingency planning	Implement management systems to maintain: • M06 Emergency Preparedness • Okha FPSO facility Emergency Response Plan • Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) • Oil Pollution Emergency Arrangements – Australia.	MSPS-06 Emergency Preparedness Okha FPSO facility Emergency Response Plan Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) Oil Pollution Emergency Arrangements – Australia	Mitigation (administration)	See Section 7 Refer to Appendix G for discussion around the ALARP assessment of controls related to hydrocarbon spill response

Risk-based analysis

For risks identified as MEEs, a more detailed risk-based bowtie analysis (as outlined in Section 2.3.3) has been used to identify, analyse and demonstrate ALARP controls for each MEE. ALARP controls have been selected using the hierarchy of control principles and considering the independence of each barrier and their type of effect in controlling the hazardous event.

By applying Woodside Risk Management Procedures and implementing the Okha Safety Case, hazards are continuously identified, risks are systematically assessed, and alternative control measures are continuously assessed to reduce risk to ALARP, which include:

- ongoing hazard identification, risk assessment and identification of control measures
- ongoing integrity management of hardware control measures in accordance with the technical performance standards, which define requirements to be suitably maintained such that they retain effectiveness, functionality, availability and survivability.

For each SCE, detailed requirements for equipment functionality, availability, reliability and survivability are incorporated into SCE technical performance standards, which also include the relevant assurance tasks (e.g. inspection, maintenance, testing and monitoring requirements) to ensure technical integrity.

Bowtie analysis was undertaken to assess MEE-02; refer to Figure 6-8 to Figure 6-11 for bowtie diagrams.

A quantitative spill risk assessment was undertaken (refer to Section 6.7.1 for details of spill modelling methodology).

Company values

Refer to the company values in ‘Demonstration of ALARP’ for MEE-01 (Section 6.7.3).

Societal values

Refer to the societal values in ‘Demonstration of ALARP’ for MEE-01 (Section 6.7.3).

ALARP statement:

On the basis of the environmental risk assessment outcomes and use of the relevant tools appropriate to the decision type, Woodside considers the adopted controls appropriate to manage the impacts and risks of an unlikely likelihood unplanned hydrocarbon release as a result of a subsea infrastructure loss of containment.

The principle of inherent safety and environmental protection is based on the prevention of the MEE through design of subsea infrastructure are operated within their design envelope through operating practices, and assurance through maintenance and inspection. If hydrocarbon loss of containment occurs, mitigation measures are in place to minimise the consequence by limiting the inventory which can be released and implementing remediation.

The controls in place for prevention and mitigation of MEEs are specified and assured through implementing Management of Hardware Controls in the Operate Phase Procedure including performance standards for SCEs and MSPSs for Safety Critical Management System Controls. The application of Woodside Risk Management Procedures ensures the continuous identification of hazards, systematic assessment of risks and ongoing assessment of alternative control measures to reduce risk to ALARP, which includes:

- ongoing hazard identification, risk assessment and the identification of control measures
- ongoing integrity management of hardware control measures in accordance with the technical performance standards which define requirements to be suitably maintained, such that they retain effectiveness, functionality, availability and survivability.

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with unplanned hydrocarbon release from subsea infrastructure. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of acceptability
Acceptability statement:
The impact assessment has determined that, given the adopted controls, an unplanned hydrocarbon release from subsea infrastructure could result in a moderate impact on environmental features or areas of heightened sensitivity with limited ability to recover.
Acceptability is demonstrated with regard to the considerations described for MEE-01 (Section 6.7.3), where considerations include principles of ESD, internal context, external context and other requirements (includes laws, policies, standards and conventions).

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 13 No release of hydrocarbons to the marine environment due to loss of containment from subsea infrastructure	C 13.1 Maintain flowline, riser and hydrocarbon-containing infrastructure integrity to avoid an MEE.	PS 13.1 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P09 – Pipeline Systems • P23 – Mooring Systems • F06 – Safety Instrumented System, together: • maintain the minimum required mechanical and structural integrity to prevent loss of containment that could result in an MEE • detect and respond to pre-defined initiating conditions to protect mechanical integrity.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.2 Refer to Section 6.7.3.	PS 12.2 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2
	C 12.3 Refer to Section 6.7.3.	PS 12.3 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	C 12.4 Refer to Section 6.7.3.	PS 12.4 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2
	C 13.2 Maintain fire and gas detection and alarm systems on the Okha FPSO facility.	PS 13.2 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • F01 – Fire and Gas Detection and Alarm System, to continuously monitor and alert for fire events and significant gas accumulations, initiate actions to minimise event escalation, and support emergency response by providing the status of the situation.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.6 Refer to Section 6.7.3.	PS 12.6 Refer to Section 6.7.3.	MC 12.6.1 Refer to Section 6.7.3.
	C 12.7 Refer to Section 6.7.3.	PS 12.7 Refer to Section 6.7.3.	MC 12.7.1 Refer to Section 6.7.3.

6.7.6 Unplanned hydrocarbon release: topsides loss of containment (MEE-03)

Context		
Topsides – Section 3.5.1 Process description – Section 3.6.2	Physical environment – Section 4.4 Biological environment – Section 4.5 Protected species – Section 4.6 Key ecological features – Section 4.7 Protected places – Section 4.8 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Hydrocarbon release from topside process equipment to the marine environment and atmosphere		X	X	X	X	X	B	D	1	M	LCS GP PJ RBA CV	Acceptable if ALARP	EPO 14
Hydrocarbon release from topsides non-process equipment to the marine environment		X	X	X	X	X	B	D	1	M			

Description of source of risk

Background

The Okha FPSO facility has a range of topsides process and non-process equipment within 11 pre-assembled modules. Release of process (i.e. gas and crude) and non-process hydrocarbons (of which diesel is the largest inventory) from the Okha topsides could release moderate quantities of hydrocarbons to the marine environment.

The causes that could lead to loss of containment from the Okha FPSO facility's topsides are:

- internal corrosion
- external corrosion
- erosion
- overpressure/underpressure
- excessive temperature
- equipment fatigue
- rotating equipment failure/uncontrolled transfer.

Escalation from other MEEs can also cause topsides loss of containment, specifically:

- loss of structural integrity (MEE-06) (Section 6.7.9)
- loss of marine vessel separation (MEE-07) (Section 6.7.10)
- loss of control of suspended load from facility lifting operations (MEE-08) (Section 6.7.11).

Common failure causes due to human error and SCE failures are presented in the generic human error and SCE failure bowties in Section 6.7.13.

Topsides loss of containment – credible hydrocarbon spill scenarios

For a process release, the worst credible scenario is defined as the loss of the entire inventory of the HP separator, which holds a maximum isolatable inventory of 113.5 m³ of crude oil. This scenario assumes a large borehole release

(such as major rupture or failure) where the inventory would be released in less than 10 minutes, and that only the isolatable inventory of the process equipment is released due to activation of the emergency shutdown systems, thus limiting further release of hydrocarbons. At the turret, a maximum oil inventory of 10 m³ for release has been estimated. As such, it is considered that this release is bounded by a topsides release.

For a non-process release, the worst credible scenario is defined as the loss of the entire inventory of one diesel day tank, which holds a maximum inventory of 6 m³ of diesel. Larger diesel inventories are stored on the Okha FPSO facility. However, except for the diesel day tanks, all other diesel storage tanks are located below the main deck, and therefore not considered credible topsides loss of containment scenarios.

Decision type, risk analysis and ALARP tools

Woodside has a good history of implementing industry standard practice in FPSO operation. In the company's 60-year history, it has not experienced any topsides integrity events that have resulted in significant environmental impacts. The Okha FPSO facility has never experienced a worst-case topsides loss of containment in its operational history.

Decision type

Decision Type B has been applied to this risk under the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). This reflects the complexity of the risk, the higher potential consequence, and stakeholder implications should the event be realised. To align with this decision type, a further level of analysis has been applied using risk-based tools, including the bowtie methodology (described in Section 2.7.3) and hydrocarbon spill trajectory modelling (Section 6.7.2). Company values were also considered when demonstrating ALARP and acceptability.

Note that Woodside has assessed the environmental consequence of a worst-case credible loss of containment from topsides equipment as 'D', as per the Woodside Risk Matrix, which does not meet Woodside's definition of an MEE. However, topsides loss of containment has been retained for clarity and to articulate key measures to control or prevent escalation to other MEEs.

Quantitative spill risk assessment

Hydrocarbon spill modelling for a 724 m³ release of processed crude oil as a result of an FPSO offtake system loss of containment (MEE-04) is discussed in Section 6.7.7. The results of this modelling can be considered a very conservative estimate of the worst-case topsides process loss of containment of the HP separator, which holds a maximum isolatable inventory of 113.5 m³ of crude oil. The potential impacts of the topsides process release are therefore discussed in Section 6.7.7 (MEE-04).

Similarly, hydrocarbon spill modelling for a 105 m³ release of diesel due to loss of marine vessel separation (MEE-07) is discussed in Section 6.7.10. The results of this modelling can be considered a very conservative estimate of the worst-case topsides non-process loss of containment of a diesel day tank, which holds 6 m³ of diesel. The potential impacts of the topsides non-process release are therefore discussed in Section 6.7.10 (MEE-07).

Hydrocarbon characteristics

Refer to Section 6.7.2.1 for both Cossack light crude and diesel characteristics.

Consequence

The spatial extent and fate (incl. weathering) of the spilled hydrocarbon were considered during the impact assessment for a worst-case topsides loss of containment. These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS, available information on environmental sensitivities that may credibly be impacted in the event of a worst-case spill (Section 6.7.3) and relevant literature and studies considering the effects of hydrocarbon exposure.

Likelihood

In accordance with the Woodside Risk Matrix, given the prevention and mitigation measures in place (i.e. design, inspection and maintenance), the likelihood of a worst-case topsides loss of containment has been defined as Highly Unlikely (1).

Consequence assessment

Environmental value(s) potentially impacted

Detailed assessment of the potential impacts from a hydrocarbon release from topside process and non-process equipment has been described in Section 6.7.7 (MEE-04) and Section 6.7.10 (MEE-07). All receptors that could be impacted by a hydrocarbon release from a topside loss of containment are also potentially impacted by a loss of well containment. Therefore, Section 6.7.3 contains a description of potential impacts to those receptors.

Impacts from the credible worst-case hydrocarbon spill scenario that may arise from MEE-03 have been inferred from modelling outputs described in Section 6.7.7 (MEE-04) and Section 6.7.10 (MEE-07). The biological consequences of such a spill on identified open-water sensitive receptors relate to the potential for minor, short-term impacts to megafauna, plankton and fish populations (surface and water column biota) that are within the spill-affected area. Potential impacts of a hydrocarbon spill to these receptors are considered in MEE-01 (Section 6.7.3).

MEE-03 topsides loss of containment – risk analysis
Bowtie risk analysis was undertaken to assess MEE-03; refer to Figure 6-12 to Figure 6-15 for bowtie diagrams.

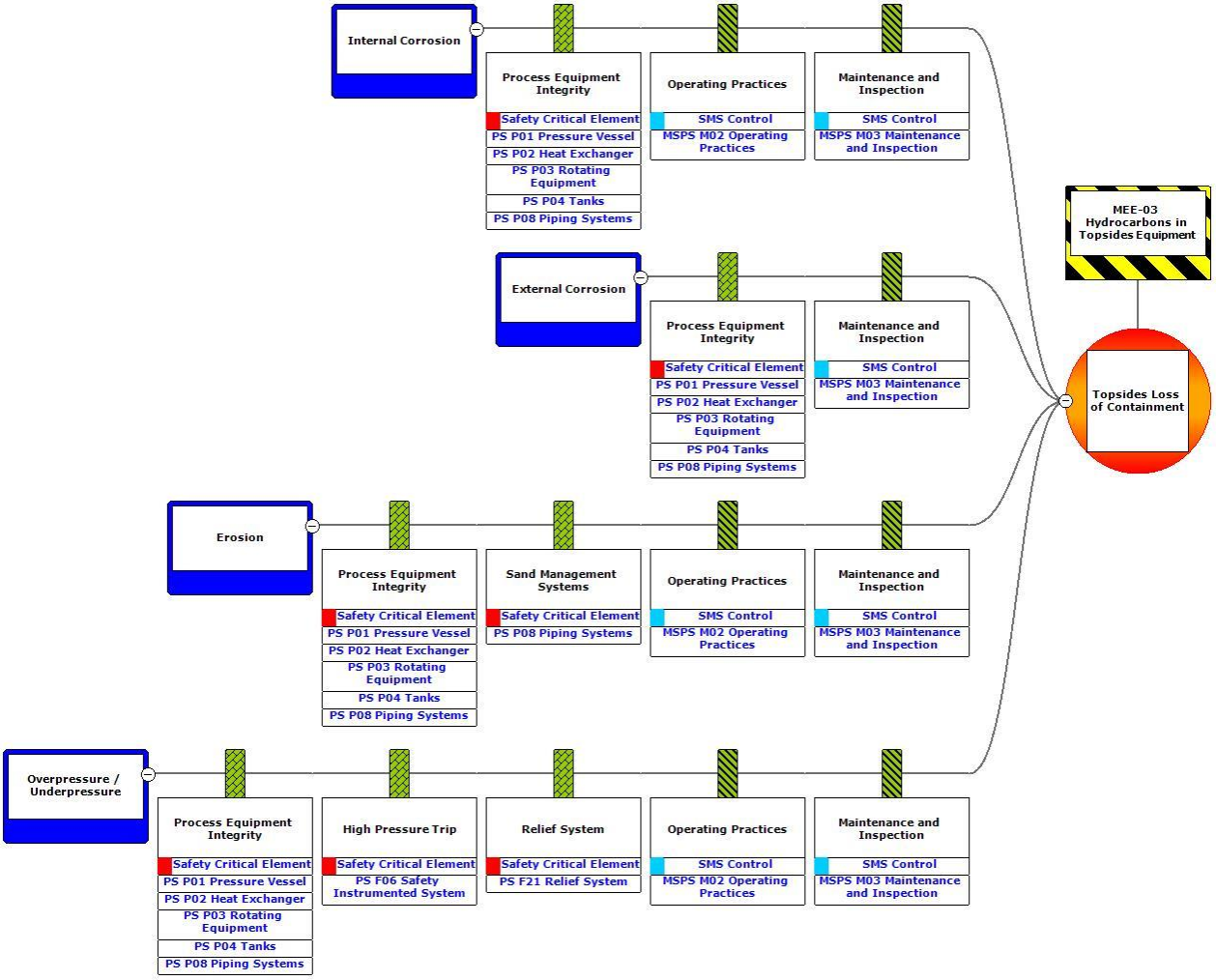


Figure 6-12: MEE-03 topsides loss of containment (causes 1 to 4)

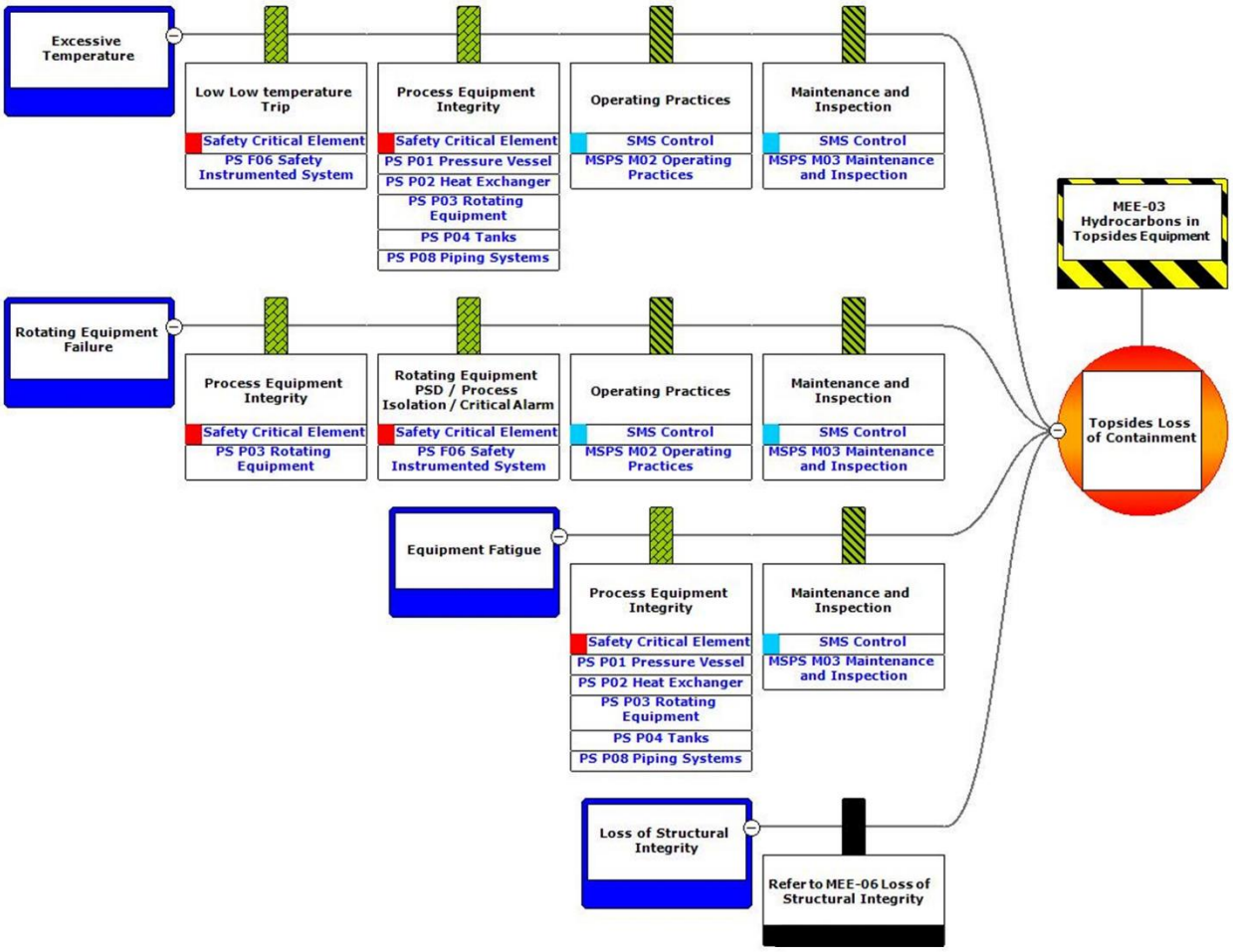


Figure 6-13: MEE-03 topsides loss of containment (causes 5 to 8)

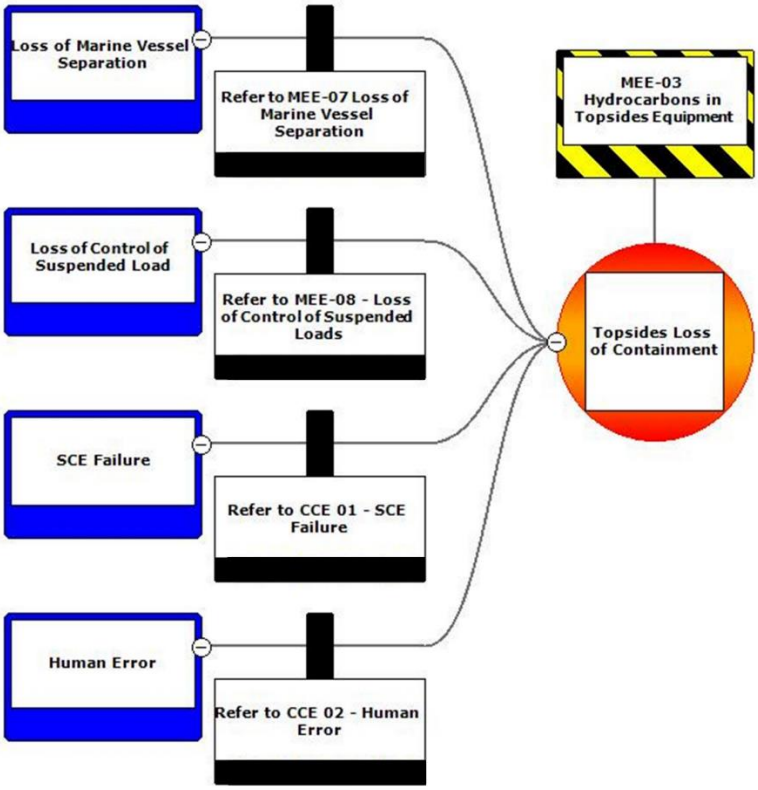


Figure 6-14: MEE-03 topsides loss of containment (causes 9 to 12)

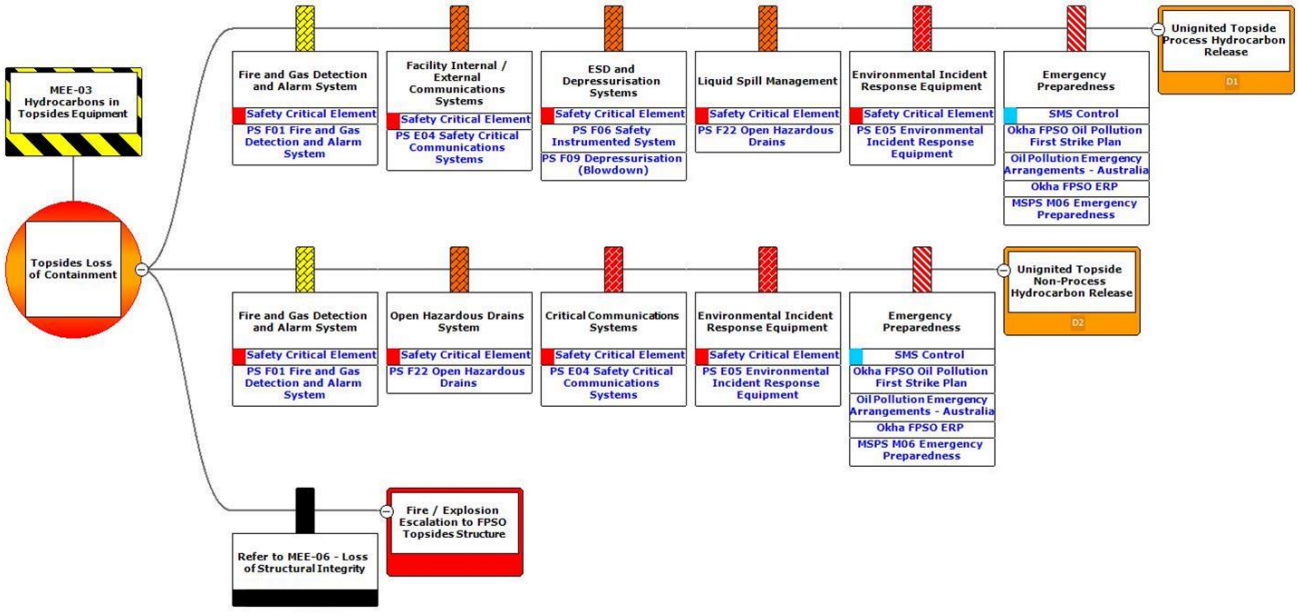


Figure 6-15: MEE-03 topsides loss of containment (outcomes)

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Preventive barriers – safety and environmental critical elements				
Elimination	N/A.	No elimination or substitution controls were identified beyond those incorporated in design.		
Substitution				
Engineering controls	Maintain topsides hydrocarbon-containing infrastructure integrity.	P01 – Pressure Vessel P02 – Heat Exchanger P03 – Rotating Equipment P04 – Tanks P08 – Piping Systems	Prevention (technical)	C 14.1
Engineering controls	Maintain emergency shutdown system, process shutdown system and relief systems.	F06 – Safety Instrumented System F21 – Relief Systems	Prevention (technical)	C 14.2
Mitigating barriers – safety and environmental critical elements				
Engineering controls	Maintain availability of critical external and internal communication systems.	E04 – Safety Critical Communications	Mitigation (technical)	C 12.2
Engineering controls	Maintain fire and gas detection and alarm systems on the Okha FPSO facility.	F01 – Fire and Gas Detection and Alarm System	Detection (technical)	C 13.2
Engineering controls	Maintain emergency shutdown system, blowdown and open hazardous drains system to isolate, remove and control hazardous inventories.	F06 – Safety Instrumented System F09 – Depressurisation (Blowdown) F22 – Open Hazardous Drains	Reduction (technical)	C 14.3
Emergency response	Maintain environmental incident response equipment to enact the Okha FPSO facility Oil Pollution First Strike Plan (Appendix H).	E05 – Environmental Incident Response Equipment	Mitigation (technical)	C 12.4
Legislation, codes and standards				
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024: Accepted Safety Case for the Okha FPSO facility.	Okha FPSO facility Safety Case	Prevention (administration)	C 12.6
Procedures and administration	Incident reports are raised for unplanned releases within event reporting system.	Woodside Health, Safety and Environment Event Reporting and Investigation Procedure	Prevention/ mitigation (administration)	C 12.7
Management system specific measures – key standards or procedures				
Procedures and administration	Implement management systems to maintain: • M02 Operating Practices • M03 Maintenance and Inspections	MSPS-02 Operating Practices MSPS-03 Maintenance and Inspections	Prevention (administration)	See Section 7 Implementation Strategy

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Emergency response and contingency planning	Implement management systems to maintain: • M06 Emergency Preparedness • Okha FPSO facility Emergency Response Plan • Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) • Oil Pollution Emergency Arrangements – Australia.	MSPS-06 Emergency Preparedness Okha FPSO facility Emergency Response Plan Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) Oil Pollution Emergency Arrangements – Australia	Mitigation (administration)	See Section 7 Implementation Strategy

Risk-based analysis

For risks identified as MEEs, a more detailed risk-based bowtie analysis (as outlined in Section 2.3.3) has been used to identify, analyse and demonstrate ALARP controls for each MEE. ALARP controls have been selected using the hierarchy of control principles and considering the independence of each barrier and their type of effect in controlling the hazardous event.

By applying Woodside Risk Management Procedures and implementing the Okha Safety Case, hazards are continuously identified, risks are systematically assessed, and alternative control measures are continuously assessed to reduce risk to ALARP, which include:

- ongoing hazard identification, risk assessment and identification of control measures
- ongoing integrity management of hardware control measures in accordance with the technical performance standards, which define requirements to be suitably maintained such that they retain effectiveness, functionality, availability and survivability.

For each SCE, detailed requirements for equipment functionality, availability, reliability and survivability are incorporated into SCE technical performance standards, which also include the relevant assurance tasks (e.g. inspection, maintenance, testing and monitoring requirements) to ensure technical integrity.

Bowtie analysis was undertaken to assess MEE-03; refer to Figure 6-12 to Figure 6-15 for bowtie diagrams.

A quantitative spill risk assessment was undertaken (refer Section 6.7.2).

Company values

Refer to the company values in ‘Demonstration of ALARP’ for MEE-01 (Section 6.7.3).

Societal values

Refer to the societal values in ‘Demonstration of ALARP’ for MEE-01 (Section 6.7.3).

ALARP statement:

On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside’s criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with hydrocarbon release from topsides loss of containment. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts are considered ALARP.

Demonstration of acceptability

Acceptability statement:

The impact assessment has determined that, given the adopted controls, an unplanned hydrocarbon release from topsides loss of containment could result in a moderate impact on environmental features or areas of heightened sensitivity with limited ability to recover.

Acceptability is demonstrated with regard to the considerations described for MEE-01 (Section 6.7.3), where considerations include principles of ESD, internal context, external context and other requirements (includes laws, policies, standards and conventions).

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 14 No release of hydrocarbons to the marine environment form loss of containment from topsides.	C 14.1 Maintain topsides hydrocarbon-containing infrastructure integrity.	PS 14.1 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P01 – Pressure Vessel • P02 – Heat Exchanger • P03 – Rotating Equipment • P04 – Tanks • P08 – Piping Systems, to together provide the minimum required mechanical integrity for identified SCE systems (piping, heat exchangers, rotating equipment, and pressure vessel) for operation within defined integrity limits to prevent a loss of containment that could result in an MEE.	MC 3.4.1 Refer to Section 6.6.2.
	C 14.2 Maintain emergency shutdown system, process shutdown system and relief systems.	PS 14.2 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • F06 – Safety Instrumented System, to: – detect and respond to pre-defined initiating conditions to protect mechanical integrity and prevent loss of containment (including uncontrolled diesel transfer/overflow) • F21 – Relief Systems, to:	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		– protect pressurised equipment, equipment exposed to high pressures and piping from a loss of containment to prevent escalation to an MEE.	
	C 12.2 Refer to Section 6.7.3.	PS 12.2 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2.
	C 13.2 Refer to Section 6.7.5.	PS 13.2 Refer to Section 6.7.5.	MC 3.4.1 Refer to Section 6.6.2.
	C 14.3 Maintain emergency shutdown system, blowdown and open hazardous drains system to isolate, remove and control hazardous inventories.	PS 14.3 Integrity will be managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • F06 – Safety Instrumented System, to: – detect and respond to pre-defined initiating conditions and initiate responses that function to put the process plant, equipment and the wells in a safe condition by appropriately isolating hazardous inventories so as to prevent or mitigate the effects of an MEE • F09 – Depressurisation (Blowdown), to: – safely depressurise the installation in order to avoid or minimise the escalation of an uncontrolled loss of containment • F22 – Open Hazardous Drains, to: – prevent escalation of an incident after	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		loss of containment, fire or explosion by removing or containing flammable liquid from hazardous areas – support appropriate containment and disposal of environmentally hazardous liquids to avoid damage to the environment.	
	C 12.4 Refer to Section 6.7.3.	PS 12.4 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.6 Refer to Section 6.7.3.	PS 12.6 Refer to Section 6.7.3.	MC 12.6.1 Refer to Section 6.7.3.
	C 12.7 Refer to Section 6.7.3.	PS 12.7 Refer to Section 6.7.3.	MC 12.7.1 Refer to Section 6.7.3.

6.7.7 Unplanned hydrocarbon release: offtake equipment loss of containment (MEE-04)

Context		
Offtake system and offtake tanker mooring – Section 3.6.7	Physical environment – Section 4.4 Biological environment – Section 4.5 Protected species – Section 4.6 Key ecological features – Section 4.7 Protected places – Section 4.8 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Hydrocarbon release from Okha FPSO facility offtake equipment to the marine environment	X	X		X	X	X	B	C	1	M	LCS GP PJ RBA CV SV	Acceptable if ALARP	EPO 15

Description of source of risk

Background

Stabilised crude product is transferred to a tandem moored offtake tanker via the stern-mounted offtake hose. The Okha FPSO facility uses a standard ship's cargo pump arrangement (two pumps at 2000 m³/h each) to manage and offload crude cargo. The Okha FPSO facility has an operational storage capacity of 934,000 bbl of oil.

In the event of an emergency on either the Okha FPSO facility or the offtake tanker during an offtake, the tanker would be released via a quick release of the hawser at the stern of the Okha FPSO facility. This hook is either remotely activated or manually released via a nearby lever. The offtake system is equipped with a dry breakaway coupling, which will release at a predetermined tension to prevent significant damage to the offtake hose while minimising oil spillage.

The causes that could lead to loss of containment from the Okha FPSO facility offtake system are:

- internal corrosion
- external corrosion
- overpressure
- equipment fatigue/failure
- loss of control of offtake vessel
- mooring failure (during offtake operations).

Escalation from other MEEs could cause loss of containment from the FPSO facility's offtake system, specifically:

- loss of structural integrity (MEE-06) (Section 6.7.9)
- loss of marine vessel separation (MEE-07) (Section 6.7.10)
- loss of control of suspended load from facility lifting operations (MEE-08) (Section 6.7.11).

Offtake equipment loss of containment – credible hydrocarbon spill scenarios

The worst-case credible scenario modelled for an offtake loss of containment is considered to be around 724 m³ of crude oil, which includes loss of the entire inventory of the offtake hose and the release associated with continued

pumping at the maximum rate of 4000 m³ of oil per hour for 10 minutes. This scenario assumes the 24-hour watch would not immediately identify the incident, and instead assumes a worst-case credible time of 10 minutes for detecting then activating/actuating shutdown systems. The characteristics of the offtake equipment loss of containment scenario are summarised in Table 6-22.

Table 6-22: Summary of the worst-case offtake equipment loss of containment release scenario

Scenario	*Hydrocarbon*	*Duration (minutes)*	*Depth (m)*	*Latitude (WGS84)*	*Longitude (WGS84)*	*Total crude release volume (m³)*
Offtake equipment loss of containment	Cossack (Okha) light crude	10	Surface	19° 35' 21" S	116° 26' 48" E	724

Decision type, risk analysis and ALARP tools

Woodside has a good history of implementing industry standard practice in FPSO operation. In the company's 60-year history, it has not experienced any offtake events that have resulted in significant environmental impacts. The Okha FPSO facility has never experienced a worst-case offtake loss of containment in its operational history.

Decision type

Decision Type B has been applied to this risk under the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). This reflects the complexity of the risk, the higher potential consequence, and stakeholder implications should the event be realised. To align with this decision type, a further level of analysis has been applied using risk-based tools, including the bowtie methodology (described in Section 2.7.3) and hydrocarbon spill trajectory modelling (Section 6.7.2). Company values were also considered when demonstrating ALARP and acceptability.

The release of hydrocarbons from an offtake equipment loss of containment is considered an MEE (MEE-04). The hazard associated with this MEE is hydrocarbons contained within the offtake equipment. Note that Woodside has assessed the environmental consequence of a worst-case credible loss of containment from offtake equipment as 'C' as per the Woodside Risk Matrix. Woodside has also assessed the reputational and brand consequences associated with this release and concluded that the event results in a 'B' level consequence, and hence meets Woodside's definition of an MEE (refer to Section 2.3.2).

Quantitative spill risk assessment

Stochastic spill modelling of the worst-case credible offtake equipment loss of containment scenario was undertaken by RPS (RPS, 2019), on behalf of Woodside. The simulation was a 10-minute release based on the assumptions in Section 6.7.2. Modelling was undertaken over all seasons to address year-round operations. This is considered to provide a conservative estimate of the EMBA and the potential impacts from the identified worst-case credible release volume for an offtake equipment loss of containment.

Hydrocarbon characteristics

Refer to Section 6.7.2.1 for Cossack light crude characteristics.

Consequence

The spatial extent and fate (including weathering) of the spilled hydrocarbon have been considered in the impact assessment presented in the next section. This assessment has been informed primarily by the outputs from the numerical modelling studies undertaken by RPS, available information about environmental sensitivities that may credibly be impacted in the event of a worst-case spill (Section 6.7.3), and relevant literature and studies considering the effects of hydrocarbon exposure.

Likelihood

In accordance with the Woodside Risk Matrix, given the prevention and mitigation measures in place (i.e. design, inspection and maintenance), the likelihood of a worst-case topsides loss of containment has been assessed as Highly Unlikely (1).

Consequence assessment

Environmental value(s) potentially impacted

Modelling of the credible worst-case hydrocarbon spill scenario that may arise from MEE-04 indicates the spill will remain offshore. The biological consequences of such a spill on identified open-water sensitive receptors relate to the potential for moderate impacts on receptors. Potential impacts of a hydrocarbon spill to these receptors are considered in MEE-01 (Section 6.7.3).

Surface hydrocarbons

Modelling results indicate no contact with sensitive receptors by surface (floating) hydrocarbons above the ecological impact threshold of 10 g/m² at probabilities of 1% or greater. At the socio-cultural impact threshold of 1 g/m², there is a 3% probability that Glomar Shoals (submerged receptor) is predicted to be contacted. No other receptors are predicted to be contacted at probabilities of 1% or greater.

Entrained hydrocarbons

Modelling results indicate there is a 3% probability of the Montebello Marine Park being contacted at concentrations above the ecological threshold of 100 ppb. No contact with any other sensitive receptors with a probability of 1% or greater is predicted.

Dissolved hydrocarbons

Modelling results indicate there is 2% probability of contact at Glomar Shoals, 1.75% probability of contact at Rankin Bank, and 3.25% probability of contact at Montebello Marine Park at concentrations of dissolved hydrocarbons above the ecological impact threshold of 50 ppb. No other receptors are predicted to be contacted at probabilities of 1% or greater.

Accumulated hydrocarbons

Modelling results indicate no contact with sensitive receptors by accumulated shoreline hydrocarbons above the ecological impact threshold of 100 g/m² at probabilities of 1% or greater, with a maximum accumulated volume of <1 m³ along all shoreline receptors. At the socio-cultural impact threshold of 10 g/m², there is also not predicted to be contact with sensitive receptors at probabilities of 1% or greater.

MEE-04 offtake equipment loss of containment – risk analysis
Bowtie risk analysis was undertaken to assess MEE-04; refer to Figure 6-15 to Figure 6-19 for bowtie diagrams.

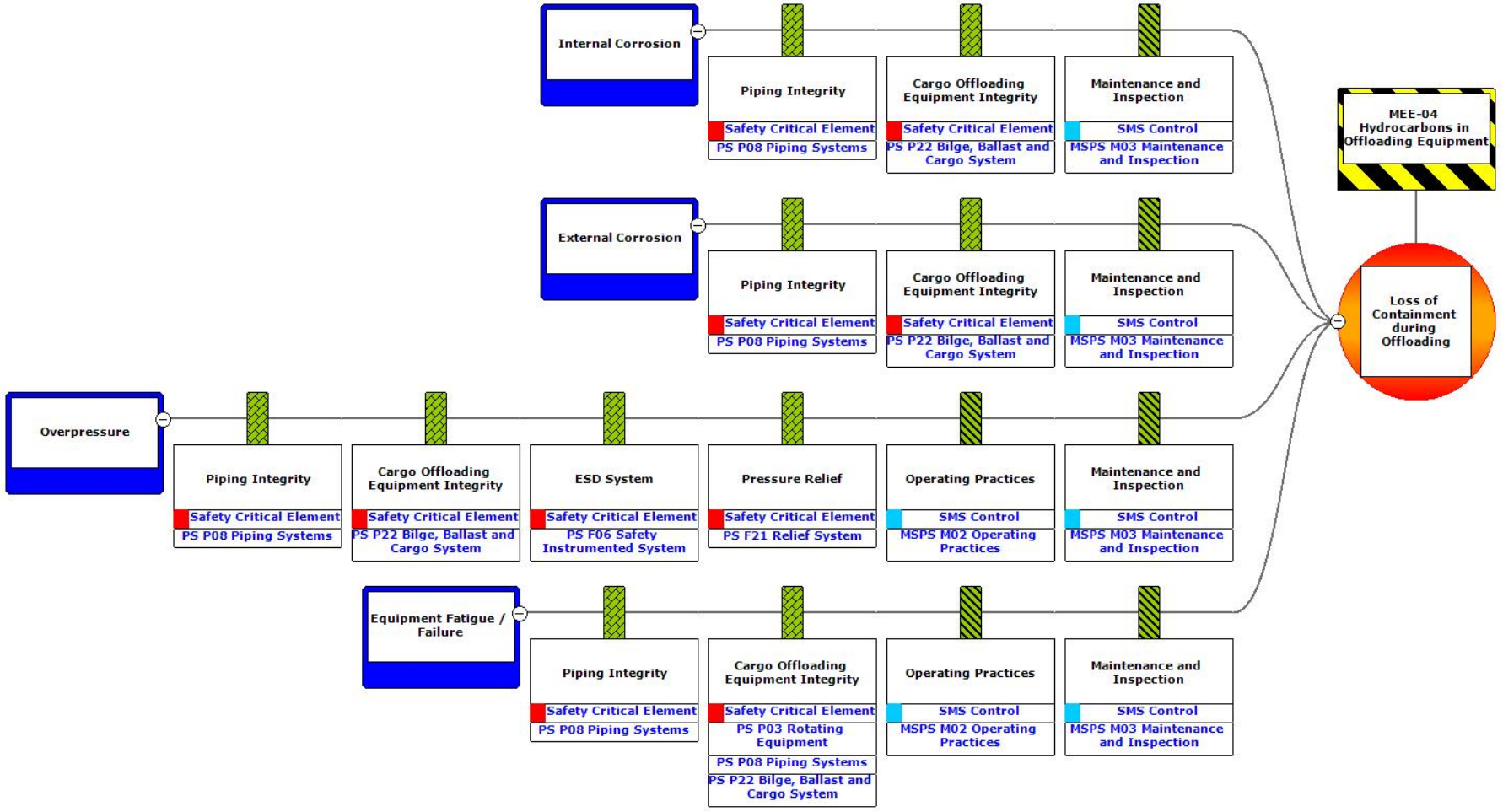


Figure 6-16: MEE-04 offtake loss of containment (causes 1 to 4)

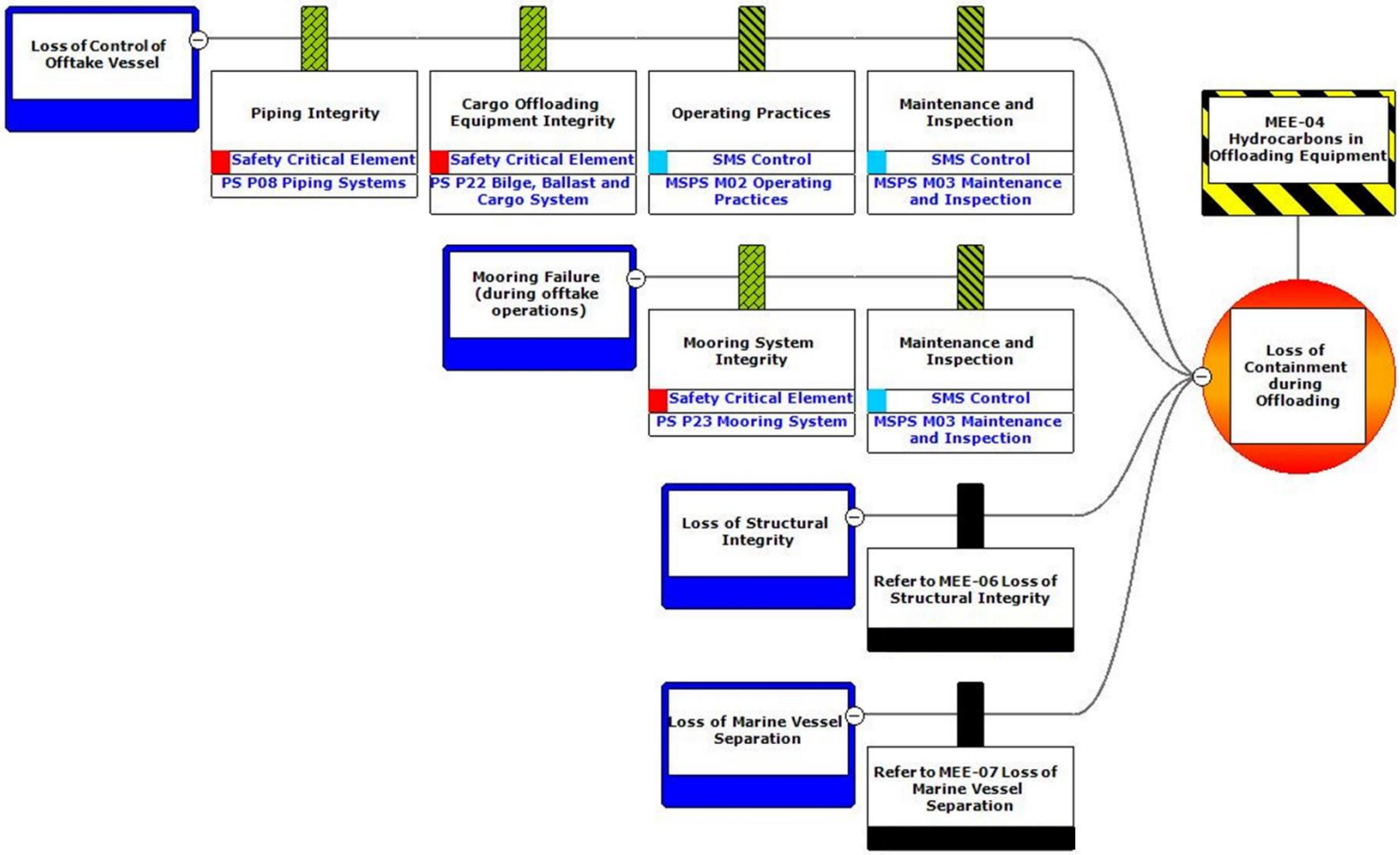


Figure 6-17: MEE-04 offtake loss of containment (causes 5 to 8)

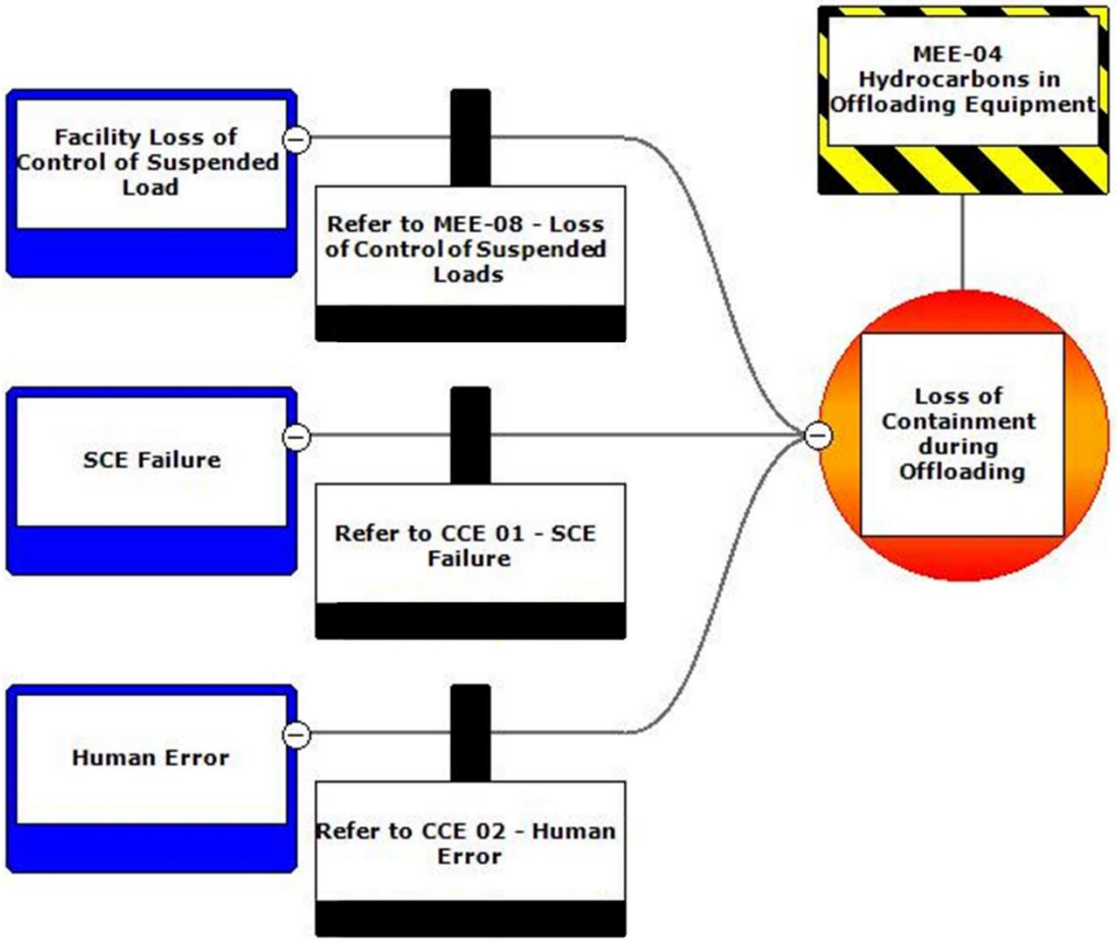


Figure 6-18: MEE-04 offtake loss of containment (causes 9 to 11)

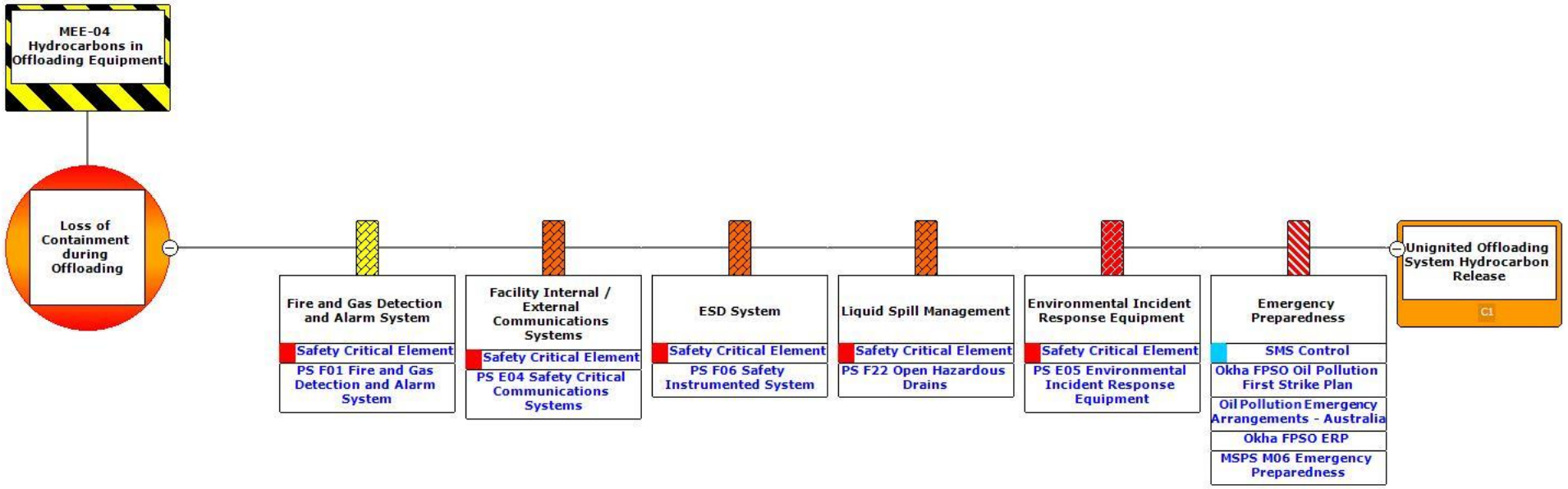


Figure 6-19: MEE-04 offtake loss of containment (outcomes)

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Preventive barriers – safety and environmental critical elements				
Elimination	N/A.	No elimination or substitution controls were identified beyond those incorporated in the design.		
Substitution				
Engineering controls	Maintain offtake equipment hydrocarbon-containing infrastructure integrity.	P03 – Rotating Equipment P08 – Piping Systems P22 – Bilge, Ballast and Cargo Systems P23 – Mooring Systems F06 – Safety Instrumented System F21 – Relief Systems	Prevention (technical)	C 15.1
Mitigating barriers – safety and environmental critical elements				
Engineering controls	Maintain availability of critical external and internal communication systems.	E04 – Safety Critical Communications	Detection (technical)	C 12.2
Engineering controls	Maintain fire and gas detection and alarm systems on Okha FPSO facility.	F01 – Fire and Gas Detection and Alarm System	Detection (technical)	C 13.2
Engineering controls	Maintain emergency shutdown system to isolate hazardous inventories.	F06 – Safety Instrumented System	Reduction (technical)	C 12.3
Engineering controls	Maintain open hazardous drains to remove and control environmentally hazardous liquid discharges.	F22 – Open Hazardous Drains	Reduction (technical)	C 15.2
Engineering controls	Maintain stability and reduce hull stresses during offtake.	P22 – Bilge, Ballast and Cargo Systems	Reduction (technical)	C 15.3
Emergency response	Maintain environmental incident response equipment to enact the Okha FPSO facility Oil Pollution First Strike Plan (Appendix H).	E05 – Environmental Incident Response Equipment	Mitigation (technical)	C 12.4
Legislation, codes and standards				
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024: Accepted Safety Case for the Okha FPSO facility.	Okha FPSO facility Safety Case	Prevention/ mitigation (administration)	C 12.6
Procedures and administration	Incident reports are raised for unplanned releases within event reporting system.	Health, Safety and Environment Event Reporting and Investigation Procedure	Prevention/ mitigation (administration)	C 12.7

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Management system specific measures – key standards or procedures				
Procedures and administration	Implement management systems to maintain: • M02 Operating Practices • M03 Maintenance and Inspections.	MSPS-02 Operating Practices MSPS-03 Maintenance and Inspections	Prevention (Administration)	See Section 7 Implementation Strategy
Emergency response and contingency planning	Implement management systems to maintain: • M06 Emergency Preparedness • Okha Emergency Response Plan • Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) • Oil Pollution Emergency Arrangements – Australia.	MSPS-06 Emergency Preparedness Okha Emergency Response Plan Okha Oil Pollution First Strike Plan (Appendix H) Oil Pollution Emergency Arrangements – Australia	Mitigation (Administration)	See Section 7 Implementation Strategy
Risk-based analysis				
For risks identified as MEEs, a more detailed risk-based bowtie analysis (as outlined in Section 2.3.3) has been used to identify, analyse and demonstrate ALARP controls for each MEE. ALARP controls have been selected using the hierarchy of control principles and considering the independence of each barrier and their type of effect in controlling the hazardous event. By applying Woodside Risk Management Procedures and implementing the Okha Safety Case, hazards are continuously identified, risks are systematically assessed, and alternative control measures are continuously assessed to reduce risk to ALARP, which include: • ongoing hazard identification, risk assessment and identification of control measures • ongoing integrity management of hardware control measures in accordance with the technical performance standards, which define requirements to be suitably maintained such that they retain effectiveness, functionality, availability and survivability. For each SCE, detailed requirements for equipment functionality, availability, reliability and survivability are incorporated into SCE technical performance standards, which also include the relevant assurance tasks (e.g. inspection, maintenance, testing and monitoring requirements) to ensure technical integrity. Bowtie analysis was undertaken to assess MEE-04; refer to Figure 6-15 to Figure 6-19 for bowtie diagrams. A quantitative spill risk assessment was undertaken in Section 6.7.2, which also applies to the receptors potentially impacted by MEE-04.				
Company values				
Refer to the company values in ‘Demonstration of ALARP’ for MEE-01 (Section 6.7.3).				
Societal values				
Refer to the societal values in ‘Demonstration of ALARP’ for MEE-01 (Section 6.7.3).				
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside’s criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with a hydrocarbon release from an offtake equipment loss of containment. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact assessment has determined that, given the adopted controls, an unplanned hydrocarbon release from offtake equipment loss of containment could result in a moderate impact on environmental features or areas of heightened sensitivity with limited ability to recover. Acceptability is demonstrated with regard to the considerations described for MEE-01 (Section 6.7.3), where considerations include principles of ESD, internal context, external context and other requirements (includes laws, policies, standards and conventions).

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 15 No release of hydrocarbons to the marine environment from loss of containment from offtake equipment.	C 15.1 Maintain offtake equipment hydrocarbon-containing infrastructure integrity.	PS 15.1 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P03 – Rotating Equipment • P08 – Piping Systems, to: – provide the minimum required mechanical integrity for identified safety and environment critical piping so as to prevent a loss of containment that could result in an MEE (for operation within defined integrity limits) • P22 – Bilge, Ballast and Cargo Systems, to: – maintain hull stress and vessel stability within integrity limits • P23 – Mooring Systems, to provide: – station-keeping within the allowable excursion envelope	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		– ability to disconnect the facility from mooring on demand – ability to disconnect the offtake tanker from the facility on demand. • F06 – Safety Instrumented System, to: – detect and respond to pre-defined initiating conditions to protect mechanical integrity • F21 – Relief Systems, to: – protect pressurised equipment, equipment exposed to high pressures and piping from a loss of containment to prevent escalation to an MEE.	
	C 12.2 Refer to Section 6.7.3.	PS 12.2 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2.
	C 13.2 Refer to Section 6.7.5.	PS 13.2 Refer to Section 6.7.5.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.3 Refer to Section 6.7.3.	PS 12.3 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2.
	C 15.2 Maintain open hazardous drains to remove and control environmentally hazardous liquid discharges.	PS 15.2 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • F22 – Open Hazardous Drains, to: • prevent escalation of an incident after loss of containment, fire or explosion by removing or containing	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		flammable liquid from hazardous areas • support appropriate containment and disposal of environmentally hazardous liquids to avoid damage to the environment.	
	C 15.3 Maintain stability and reduce hull stresses during offtake	PS 15.3 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P22 – Bilge, Ballast and Cargo Systems, to maintain hull stress and vessel stability within integrity limits.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.4 Refer to Section 6.7.3.	PS 12.4 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.6 Refer to Section 6.7.3.	PS 12.6 Refer to Section 6.7.3.	MC 12.6.1 Refer to Section 6.7.3.
	C 12.7 Refer to Section 6.7.3.	PS 12.7 Refer to Section 6.7.3.	MC 12.7.1 Refer to Section 6.7.3.

6.7.8 Unplanned hydrocarbon release: cargo tank loss of containment (MEE-05)

Context		
Cargo tanks – Section 3.6.5	Physical environment – Section 4.4 Biological environment – Section 4.5 Protected species – Section 4.6 Key ecological features – Section 4.7 Protected places – Section 4.8 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Hydrocarbon release caused by cargo tank loss of containment	X	X		X	X	X	B	A	1	H	LCS GP PJ RBA CV SV	Acceptable if ALARP	EPO 16

Description of source of risk

Background

The Okha FPSO facility has a total of 11 dedicated cargo tanks, which are designed to receive and store crude oil directly from topsides process plant. The crude oil is fed from the topsides directly to the cargo tanks by dedicated drop lines into the top of all cargo tanks. The individual storage tanks range in capacity, with a total operational storage capacity of 934,000 bbl of oil. A loss of containment from a cargo tank could result in a significant volume of crude being released to the marine environment. Due to the potential consequences, a cargo tank loss of containment is considered an MEE (MEE-05). The potential hazard sources that could instigate a cargo tank loss of containment are:

- internal corrosion
- external corrosion
- overpressure/under pressure
- tank leakage/overfilling
- equipment fatigue/failure
- loss of containment between cargo tanks
- loss of containment from topsides piping
- loss of cargo tank atmosphere control.

Escalation from other MEEs could cause loss of containment from the Okha FPSO facility's cargo tanks, specifically:

- loss of structural integrity (MEE-06) (Section 6.7.9)
- loss of marine vessel separation (MEE-07) (Section 6.7.10)
- loss of control of suspended load from facility lifting operations (MEE-08) (Section 6.7.11).

Okha FPSO facility cargo tank loss of containment – credible hydrocarbon spill scenarios

There is a credible worst-case loss of containment scenario caused by bulkhead damage resulting in the loss of two adjacent cargo tanks. As such, the worst-case credible loss of containment scenario from a cargo tank spill on the Okha FPSO facility is taken as 30,302 m³ of crude. This volume is based on the assumption the largest cargo tank and the next largest adjacent cargo tank both lost their entire inventory (standard loading limit – tank capacity at 98%). This scenario is considered conservative because for the entire inventory to be lost from a tank, it would require the point of rupture to be such that the entire volume could drain freely from the tank to the environment (e.g. point of rupture would have to be at the bottom part of a tank, whereas rupture from a vessel collision would be at the water line and thus at the upper side of the tank).

In addition, a loss of diesel from a FPSO diesel fuel tank is also a credible scenario due to marine vessel separation (MEE-07) (Section 6.7.10). The single largest inventory of diesel within the hull is the port diesel Bunker Tank No.3 (1,230 m³) (refer to Table 3-9). The cargo tank loss of containment event has been selected to inform the risk assessment due to the larger potential release volume. Release characteristics for the cargo tank loss of containment scenario are summarised in Table 6-23.

Table 6-23: Summary of the worst-case cargo tank loss of containment release scenario

Scenario	*Hydrocarbon*	*Duration (hours)*	*Depth (m)*	*Latitude (WGS84)*	*Longitude (WGS84)*	*Total crude release volume (m³)*
Cargo tank loss of containment	Cossack (Okha) light crude	24 hours	Surface	19° 35’ 21” S	116° 26’ 48” E	30,302

Decision type, risk analysis and ALARP tools

Woodside has a good history of implementing industry standard practice in FPSO operation. In the company’s 60-year history, it has not experienced any cargo tank integrity events that have resulted in significant environmental impacts. The Okha FPSO facility has never experienced a worst-case cargo tank loss of containment in its operational history.

Decision type

Decision Type B has been applied to this risk under the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). This reflects the complexity of the risk, the higher potential consequence, and stakeholder implications should the event be realised. To align with this decision type, a further level of analysis has been applied using risk-based tools, including the bowtie methodology (described in Section 2.3.3) and hydrocarbon spill trajectory modelling (Section 6.7.2). Company values were also considered when demonstrating ALARP and acceptability.

The release of hydrocarbons from an Okha FPSO facility cargo tank loss of containment is considered an MEE (MEE-05). The hazard associated with this MEE is hydrocarbons contained within the Okha FPSO facility’s cargo tanks.

Quantitative spill risk assessment

Stochastic spill modelling of the worst-case credible offtake equipment loss of containment scenario was undertaken by RPS (RPS, 2019), on behalf of Woodside. The simulation was a phased release over 24 hours based on the assumptions in Section 6.7.2. Modelling was undertaken over all seasons to address year-round operations. This is considered to provide a conservative estimate of the EMBA and the potential impacts from the identified worst-case credible release volume for an Okha FPSO facility cargo tank loss of containment.

Hydrocarbon characteristics

Refer to Section 6.7.2.1 for Cossack (Okha) light crude characteristics.

Consequence

The spatial extent and fate (including weathering) of the spilled hydrocarbon were considered during the impact assessment for a worst-case Okha FPSO facility cargo tank loss of containment (presented in the following section). These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS, available information on environmental sensitivities that may credibly be impacted in the event of a worst-case spill, (Section 6.7.3) and relevant literature and studies considering the effects of hydrocarbon exposure.

Likelihood

In accordance with the Woodside Risk Matrix, given the prevention and mitigation measures in place (i.e. design, inspection and maintenance), the likelihood of a worst-case topsides loss of containment has been assessed as Highly Unlikely (1).

Consequence assessment
Environmental value(s) potentially impacted
Modelling of the credible worst-case hydrocarbon spill scenario that may arise from MEE-05 indicates the spill may impact upon multiple environmental receptors (Table 6-24). The biological consequences of such a spill on identified open-water sensitive receptors relate to the potential for catastrophic, long-term impacts to environmental receptors within the spill-affected area. Potential impacts of a hydrocarbon spill to these receptors are considered in MEE-01 (Section 6.7.3), except for Dampier Archipelago, a receptor that is contacted by shoreline accumulation above the socio-cultural threshold in the MEE-05 scenario. No ecological impact is expected at this receptor. The worst-case hydrocarbon volumes that can credibly be released by MEE-05 are considerably smaller than the credible worst-case loss of well containment volumes considered in MEE-01 (Section 6.7.3). Additionally, the credible release durations are significantly shorter. These considerations are reflected in the significantly smaller EMBA presented in Table 6-24. ***Surface hydrocarbons*** Quantitative spill modelling results for surface hydrocarbons are shown in Table 6-24. Modelling results indicate a potential for contact by surface (floating) hydrocarbons above the impact threshold for the Montebello Islands (1% probability for AMP and State marine park) and the Montebello Islands Group. However, no other receptors were predicted to be contacted at probabilities of 1% or greater. At the 1 g/m² socio-cultural threshold, multiple receptors are contacted, with the highest probability found at Montebello AMP (10%). ***Entrained hydrocarbons*** Quantitative spill modelling results for entrained hydrocarbons are shown in Table 6-24. Contact by entrained oil at concentrations equal to or above the ecological impact threshold (100 ppb) is predicted at the Montebello Islands (29%), as well as at several other sensitive receptors with probabilities greater than 1%. ***Dissolved hydrocarbons*** Quantitative spill modelling results for dissolved hydrocarbons are shown in Table 6-24. Dissolved hydrocarbons at concentrations equal to or above the 50 ppb threshold are predicted to be greatest at the Montebello AMP (30.5%), with other receptors also having a greater than 1% probability of being contacted. ***Accumulated hydrocarbons*** Quantitative spill modelling results for accumulated hydrocarbons are shown in Table 6-24. A number of receptors are expected to be contacted above ecological thresholds, with the highest probability of contact being at the Montebello Islands, Pilbara Islands and Muiron Island (4%). Receptors may also be contacted above the socio-cultural thresholds, with the Montello Island AMP having the highest probability of contact (10%).

MEE-05 cargo tank loss of containment – risk analysis
Bowtie risk analysis was undertaken to assess MEE-05; refer to Figure 6-20 to Figure 6-23 for bowtie diagrams.

Table 6-24: Key receptor locations and sensitivities potentially contacted above impact thresholds by the cargo tank loss of containment scenario with summary hydrocarbon spill contact (table cell values correspond to probability of contact [%])

Environmental setting	Location/name	Environmental, social, cultural, heritage and economic aspects presented as per the environmental risk definitions in Woodside's Risk Management Procedure																										Probability of hydrocarbon contact and fate (Cossack [Okha] light crude)					
		Physical		Biological																				Socio-economic and cultural					Socio-cultural thresholds		Ecological thresholds			
		Water quality	*Sediment quality*	*Marine primary producers*			*Other communities/habitats*								*Protected species*								*Other species*											
		Open water (pristine)	Marine sediment (pristine)	Coral reef	Seagrass beds/macroalgae	Mangroves	Spawning/nursery areas	Open water – productivity/upwelling	Non-biogenic coral reefs	Offshore filter feeders and/or deepwater benthic communities	Nearshore filter feeders	Sandy shores	Estuaries/tributaries/creeks/lagoons (including mudflats)	Rocky shores	Cetaceans – migratory whales	Cetaceans – dolphins and porpoises	Dugongs	Pinnipeds (sea lions and fur seals)	Marine turtles (including foraging and internesting areas and significant nesting beaches)	Sea snakes	Whale sharks	Sharks and rays	Sea birds and/or migratory shorebirds	Pelagic fish populations	Resident/demersal fish	Fisheries – commercial	Fisheries – traditional	Tourism and recreation	Protected areas/heritage – European and Indigenous/shipwrecks	Offshore oil & gas infrastructure (topside and subsea)	Surface hydrocarbon (1-10 g/m²)	Accumulated hydrocarbons (10–100 g/m²)	Surface hydrocarbon (≥10 g/m²)	Entrained hydrocarbon (≥100 ppb)	Dissolved aromatic hydrocarbon (≥50 ppb)	Accumulated hydrocarbons (>100 g/m²)
Australian marine parks[53]	Montebello	✓	✓	✓			✓	✓							✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		10	8	1	29	30.5	
	Gascoyne	✓	✓												✓	✓			✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	2			9.5	6.5	
	Argo-Rowley Terrace	✓	✓					✓							✓	✓			✓			✓	✓	✓		✓			✓					5		
Coastlines	Exmouth Gulf West	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓		✓		✓	✓			1				
	Dampier Archipelago	✓	✓	✓	✓	✓	✓				✓	✓		✓		✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓			1				
Islands	Montebello Islands (including State Marine Park)	✓	✓	✓	✓	✓	✓	✓				✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		4		1	13.5	8.5	4
	Barrow Island (including State Nature Reserves, State Marine Park and Marine Management Area)	✓	✓	✓	✓		✓	✓				✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	2.5	6.5		8	6.5	3
	Pilbara Islands – Southern Island Group (Serrurier, Thevenard and Bessieres Islands – State Nature Reserves)	✓	✓		✓		✓		✓			✓		✓		✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓		3.5	7.5		8	6.5	4
	Pilbara Islands – Middle Island Group	✓	✓		✓		✓		✓			✓		✓		✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓			4				2
	Pilbara Islands – Northern Pilbara – Islands and Shoreline																															1.5				
	Muiron Islands (WHA, State Marine Park)	✓	✓	✓	✓		✓	✓		✓		✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓			✓	✓		2.5	7		7	3.5	4
	Lowendal Islands	✓	✓	✓	✓		✓	✓				✓		✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		1			3		2.5
Mainland (nearshore waters)	Ningaloo Coast (North/North West Cape, Middle and South) (WHA, and State Marine Park)	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓	✓		✓	✓		1	4		4	4	1.5

53 Note: Hydrocarbons cannot accumulate on open ocean, submerged receptors, or receptors not fully emergent.

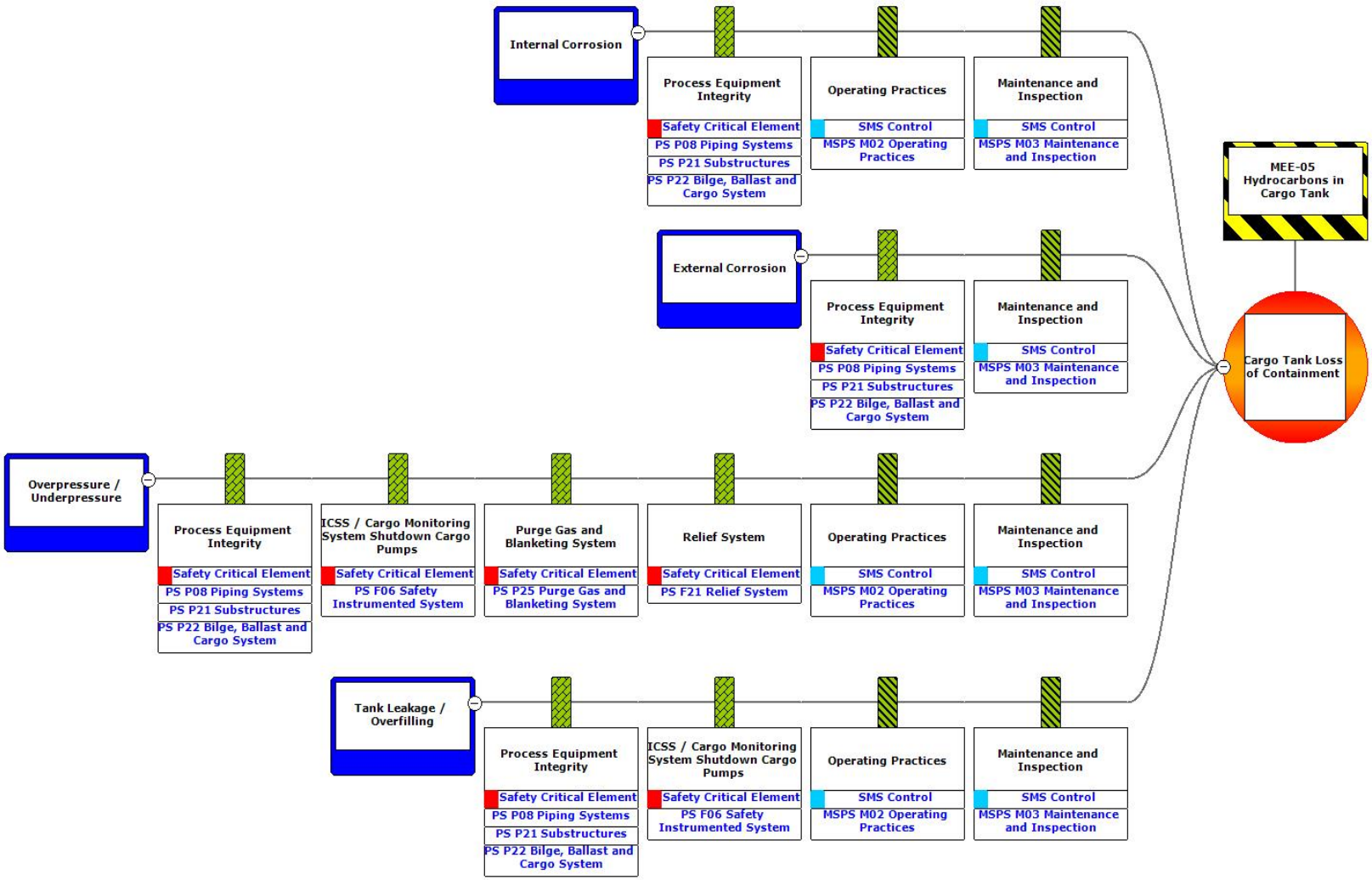


Figure 6-20: MEE-05 cargo tank loss of containment (causes 1 to 4)

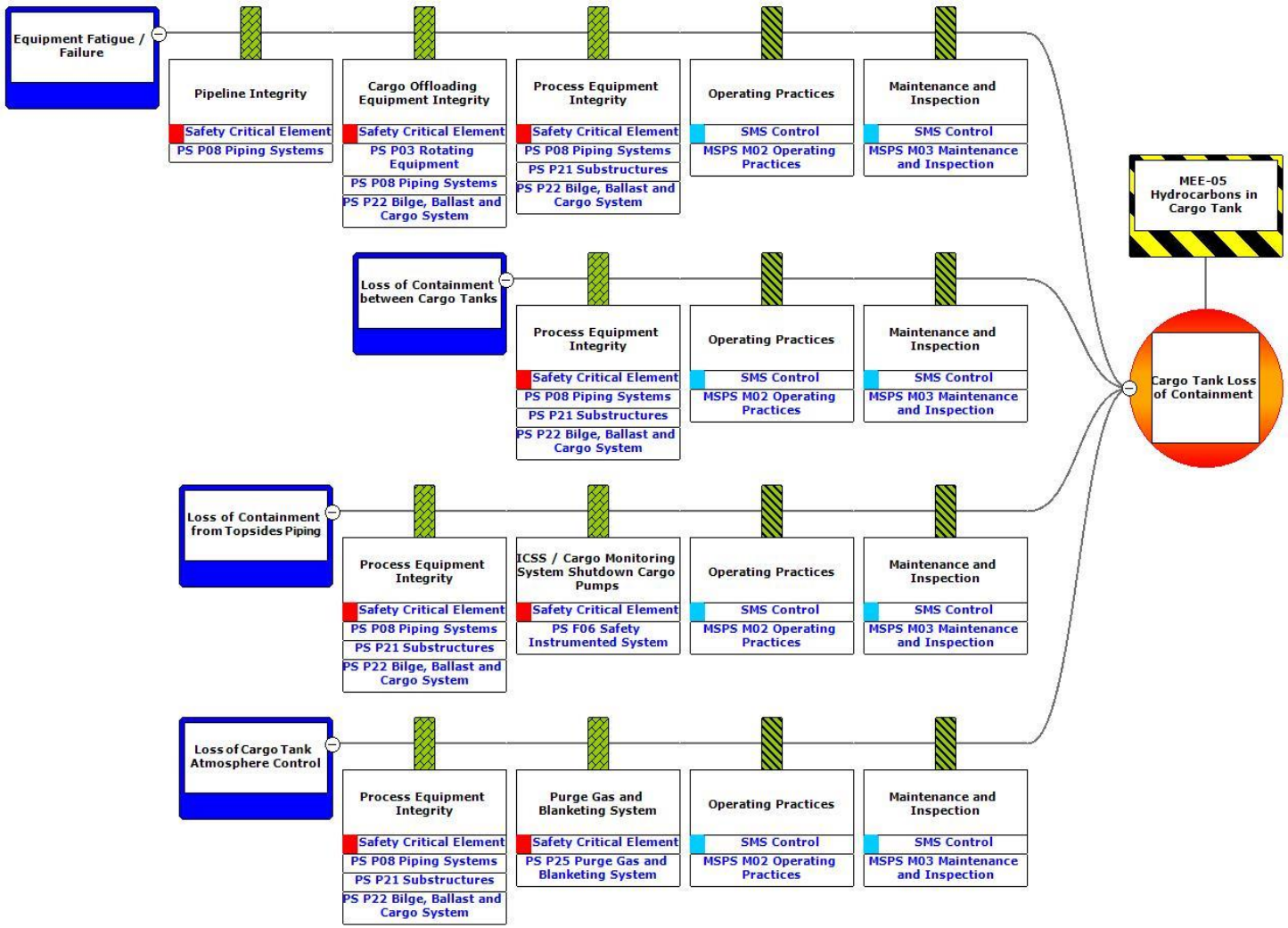


Figure 6-21: MEE-05 cargo tank loss of containment (causes 5 to 8)

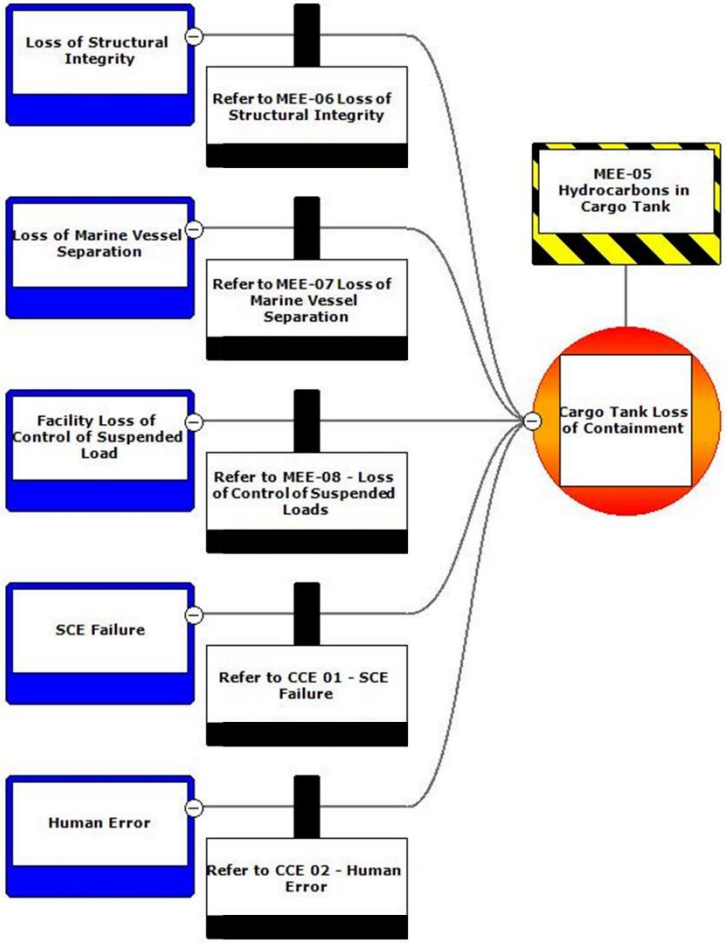


Figure 6-22: MEE-05 cargo tank loss of containment (causes 9 to 13)

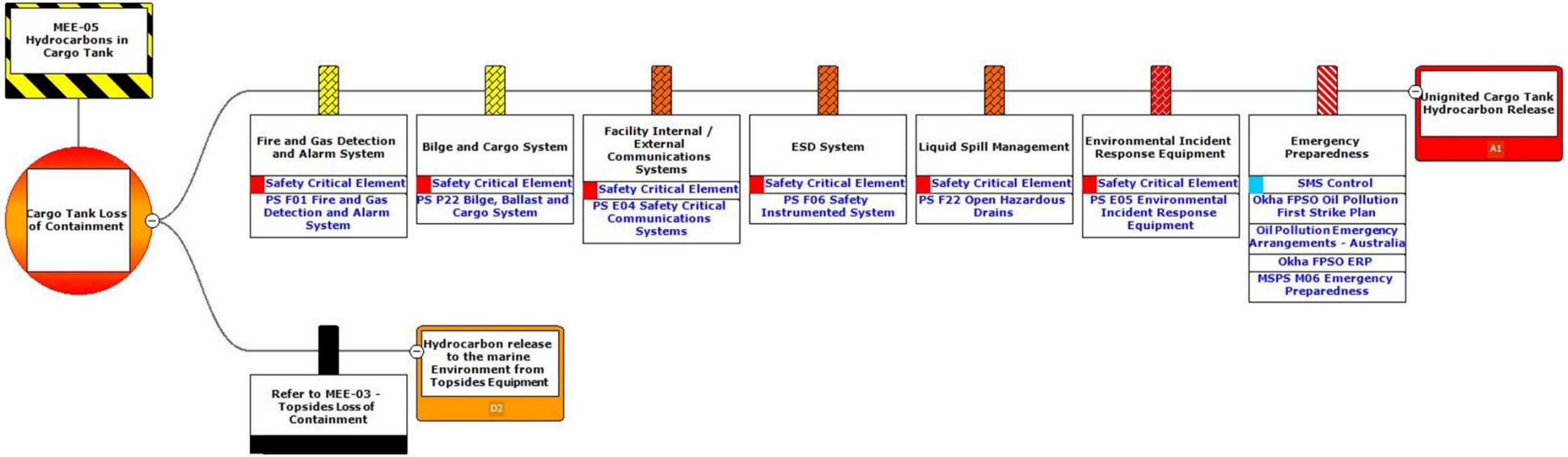


Figure 6-23: MEE-05 cargo tank loss of containment (outcomes)

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Preventive barriers – safety and environmental critical elements				
Elimination	N/A.	No elimination or substitution controls were identified beyond those incorporated in design.		
Substitution				
Engineering controls	Maintain cargo system hydrocarbon-containing infrastructure integrity.	P03 – Rotation equipment P08 – Piping Systems P21 – Substructures P22 – Bilge, Ballast and Cargo Systems P25 – Purge Gas and Blanketing System F06 – Safety Instrumented System F21 – Relief Systems	Prevention (technical)	C 16.1
Mitigating barriers – safety and environmental critical elements				
Engineering controls	Maintain availability of critical external and internal communication systems.	E04 – Safety Critical Communications	Reduction (technical)	C 12.2
Engineering controls	Maintain fire and gas detection and alarm systems on Okha FPSO facility.	F01 – Fire and Gas Detection and Alarm System	Detection (technical)	C 13.2
Engineering controls	Maintain bilge detection and alarm systems to mitigate an MEE.	P22 – Bilge, Ballast and Cargo Systems	Detection (technical)	C 16.2
Engineering controls	Maintain emergency shutdown system to isolate hazardous inventories.	F06 – Safety Instrumented System	Reduction (technical)	C 12.3
Engineering controls	Maintain open hazardous drains to remove and control environmentally hazardous liquid discharges.	F22 – Open Hazardous Drains	Reduction (technical)	C 15.2
Emergency response	Maintain environmental incident response equipment to enact the Okha FPSO facility Oil Pollution First Strike Plan (Appendix H).	E05 – Environmental Incident Response Equipment	Mitigation (technical)	C 12.4
Legislation, codes and standards				
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024: Accepted Safety Case for the Okha FPSO facility.	Okha Safety Case	Prevention/ mitigation (administration)	C 12.6
Procedures and administration	Incident reports are raised for unplanned releases within event reporting system.	Health, Safety and Environment Event Reporting and Investigation Procedure	Prevention/ mitigation (administration)	C 12.7

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Management system specific measures – key standards or procedures				
Procedures and administration	Implement management systems to maintain: • M02 Operating Practices • M03 Maintenance and Inspections.	MSPS-02 Operating Practices MSPS-03 Maintenance and Inspections	Prevention (administration)	See Section 7 Implementation Strategy
Emergency response and contingency planning	Implement management systems to maintain: • M06 Emergency Preparedness • Okha Emergency Response Plan • Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) • Oil Pollution Emergency Arrangements – Australia.	MSPS-06 Emergency Preparedness Okha Emergency Response Plan Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) Oil Pollution Emergency Arrangements – Australia	Mitigation (administration)	See Section 7 Implementation Strategy
Risk-based analysis				
For risks identified as MEEs, a more detailed risk-based bowtie analysis (as outlined in Section 2.3.3) has been used to identify, analyse and demonstrate ALARP controls for each MEE. ALARP controls have been selected using the hierarchy of control principles and considering the independence of each barrier and their type of effect in controlling the hazardous event. By applying Woodside Risk Management Procedures and implementing the Okha Safety Case, hazards are continuously identified, risks are systematically assessed, and alternative control measures are continuously assessed to reduce risk to ALARP, which include: • ongoing hazard identification, risk assessment and identification of control measures • ongoing integrity management of hardware control measures in accordance with the technical performance standards, which define requirements to be suitably maintained such that they retain effectiveness, functionality, availability and survivability. For each SCE, detailed requirements for equipment functionality, availability, reliability and survivability are incorporated into SCE technical performance standards, which also include the relevant assurance tasks (e.g. inspection, maintenance, testing and monitoring requirements) to ensure technical integrity. Bowtie analysis was undertaken to assess MEE-05; refer to Figure 6-20 to Figure 6-23 for bowtie diagrams. A quantitative spill risk assessment was undertaken (refer to Section 6.7.2).				
Company values				
Refer to the company values in 'Demonstration of ALARP' for MEE-01 (Section 6.7.3).				
Societal values				
Refer to the societal values in 'Demonstration of ALARP' for MEE-01 (Section 6.7.3).				
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with hydrocarbon release from a cargo tank loss of containment. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact assessment has determined that, given the adopted controls, an unplanned hydrocarbon release from cargo tank loss of containment could result in a severe impact on environmental features or areas of heightened sensitivity with limited ability to recover. Acceptability is demonstrated with regard to the considerations described for MEE-01 (Section 6.7.3), where considerations include principles of ESD, internal context, external context and other requirements (includes laws, policies, standards and conventions).

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 16 No release of hydrocarbons to the marine environment from a cargo tank loss of containment.	C 16.1 Maintain cargo system hydrocarbon-containing infrastructure integrity.	PS 16.1 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P03 Rotating Equipment • P08 Piping Systems, to: – provide the minimum required mechanical integrity for identified safety and environment critical piping so as to prevent a loss of containment that could result in an MEE (for operation within defined integrity limits) • P21 Substructures, to: – provide and maintain structural integrity to support SCE systems under all design conditions during service life – prevent structural failure from contributing to the escalation of an MEE by providing support/protection of SCE systems during an emergency event, or support containment of	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		environmentally hazardous materials • P22 Bilge, Ballast and Cargo Systems, to: – maintain hull stress and vessel stability within integrity limits • P25 Purge Gas and Blanketing System, to: – safely prevent the creation of an explosive atmosphere by either preventing oxygen ingress or dilution of hydrocarbon stream. • F06 Safety Instrumented System, to: – detect and respond to pre-defined initiating conditions to protect mechanical integrity • F21 Relief Systems, to: – protect pressurised equipment, equipment exposed to high pressures and piping from a loss of containment to prevent escalation to an MEE.	
	C 12.2 Refer to Section 6.7.3.	PS 12.2 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2.
	C 13.2 Refer to Section 6.7.5.	PS 13.2 Refer to Section 6.7.5.	MC 3.4.1 Refer to Section 6.6.2.
	C 16.2 Maintain bilge detection and alarm systems to mitigate an MEE.	PS 16.2 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P22 – Bilge, Ballast and Cargo Systems,	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		to maintain hull stress and vessel stability within integrity limits.	
	C 12.3 Refer to Section 6.7.3.	PS 12.3 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2.
	C 15.2 Refer to Section 6.7.7.	PS 15.2 Refer to Section 6.7.7.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.4 Refer to Section 6.7.3.	PS 12.4 Refer to Section 6.7.3.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.6 Refer to Section 6.7.3.	PS 12.6 Refer to Section 6.7.3.	MC 12.6.1 Refer to Section 6.7.3.
	C 12.7 Refer to Section 6.7.3.	PS 12.7 Refer to Section 6.7.3.	MC 12.7.1 Refer to Section 6.7.3.

6.7.9 Unplanned hydrocarbon release: loss of structural integrity (MEE-06)

Context		
Subsea infrastructure – Section 3.5.3 Topsides – Section 3.5.1 Process description – Section 3.6.2	Physical environment – Section 4.4 Biological environment – Section 4.5 Protected species – Section 4.6 Key ecological features – Section 4.7 Protected areas – Section 4.8 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Hydrocarbon release caused by a loss of structural integrity, leading to: • MEE-02 – subsea infrastructure loss of containment • MEE-03 – topsides loss of containment • MEE-04 – offtake equipment loss of containment • MEE-05 – Okha FPSO facility cargo tank loss of containment	X	X	X	X	X	X	B	A	1	H	LCS GP PJ RBA CV SV	Acceptable if ALARP	EPO 17

Description of source of risk

Background

The Okha FPSO facility contains hydrocarbons in a range of infrastructure, including cargo tanks, process inventory, non-process inventory, flowlines and risers.

Woodside has identified the potential for hydrocarbon release due to the extreme environmental conditions, or other causes, that result in an exceedance of the design criteria and a catastrophic failure of the facility and individual equipment (e.g. cranes, flare), which could cause damage to adjacent equipment, leading to hydrocarbon releases to the environment.

Extreme environmental conditions (cyclone) could result in loss of structural integrity of the Okha FPSO facility, resulting in surface hydrocarbon release to the environment (from risers, cargo tanks and topsides equipment). There is also the possibility of the Okha FPSO facility capsizing or foundering because of strong winds and extreme waves. This may induce pipework fatigue and loose/dislodged objects/projectiles, causing impact to equipment/pipework and resulting in a loss of containment. Structural failures could be localised or, in more extreme situations, result in loss of containment of multiple hydrocarbon inventories on the Okha FPSO facility.

Extreme environmental conditions may also result in movement of the vessel and releases from flowlines/risers (MEE-02) or topsides equipment or storage (MEE-02 to MEE-05). The worst-case environmental consequence ranking is an 'A' for these events related to loss of structural integrity. The release of hydrocarbons as a result of loss

of structural integrity is considered an MEE (MEE-06). The hazard associated with this MEE is hydrocarbons in the Okha FPSO facility.

The causes of structural failure of the Okha FPSO facility that were identified are:

- Internal corrosion
- external corrosion
- equipment fatigue
- extreme weather (cyclone, high waves)
- mooring system failure
- vessel stresses through loading and stability
- fire or explosion escalation to structure (including events captured in MEE-02, MEE-03, MEE-04 and MEE-05).

Common failure causes because of human error and SCE failures are presented in the generic human error and SCE failure bowties in Section 6.7.13.

Loss of structural integrity – credible hydrocarbon spill scenario

A loss of structural integrity could result in a significant release of hydrocarbons. A loss of structural integrity could also result in credible spill scenarios consistent with a loss of well containment (MEE-01, Section 6.7.3), subsea infrastructure loss of containment (MEE-02, Section 6.7.5), topsides loss of containment (MEE-03, Section 6.7.6) and Okha FPSO facility cargo tank loss of containment (MEE-05, Section 6.7.8). The worst-case credible spill scenarios associated with these MEEs are discussed in the relevant sections above; refer to those sections for more information.

Decision type, risk analysis and ALARP tools

Woodside has a good history of implementing industry standard practice in structural design and construction. The Okha FPSO facility has never experienced a worst-case loss of containment due to structural failure in its operational history.

Decision type

Decision Type B has been applied to this risk under the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). This reflects the complexity of the risk, the higher potential consequence, and stakeholder implications should the event be realised. To align with this decision type, a further level of analysis has been applied using risk-based tools, including the bowtie methodology (described in Section 2.3.3) and hydrocarbon spill trajectory modelling. Company and societal values were also considered when demonstrating ALARP and acceptability, through peer review, benchmarking and stakeholder consultation.

The loss of structural integrity is considered an MEE (MEE-06). The hazard associated with this MEE is hydrocarbons contained within the Okha FPSO facility and associated infrastructure.

Quantitative spill risk assessment

Credible worst-case stochastic spill modelling for the scenarios associated with MEE-01 (Section 6.7.36.7.3), MEE-02 (Section 6.7.56.7.5), MEE-03 (Section 6.7.6) and MEE-05 (Section 6.7.8) has been undertaken. Results of these modelling studies have been used to inform the consequence assessment for these MEEs; these assessments are applicable to the consequence assessment for a loss of structural integrity event.

Consequence

The spatial extent and fate (including weathering) of the spilled hydrocarbon were considered during the impact assessment for a loss of structural integrity. These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS, available information about environmental sensitivities that may credibly be impacted in the event of a worst-case spill (Section 6.7.3), and relevant literature and studies considering the effects of hydrocarbon exposure.

Likelihood

In accordance with the Woodside Risk Matrix, given the prevention and mitigation measures in place (i.e. design, inspection and maintenance), the likelihood has been assessed as Highly Unlikely (1).

Consequence assessment

Environmental value(s) potentially impacted

As discussed above, the potential impacts from hydrocarbon release caused by a loss of structural integrity are those which would result from:

- loss of well containment, Section 6.7.3 (MEE-01)
- subsea infrastructure loss of containment, Section 6.7.5 (MEE-02)
- topsides loss of containment, Section 6.7.6 (MEE-03)
- offtake equipment loss of containment, Section 6.7.7 (MEE-04)
- cargo tank loss of containment, Section 6.7.8 (MEE-05).

The potential impacts are therefore discussed in the above-mentioned sections.

MEE-06 loss of structural integrity – risk analysis
Bowtie risk analysis was undertaken to assess MEE-06; refer to Figure 6-24 to Figure 6-26 for bowtie diagrams.

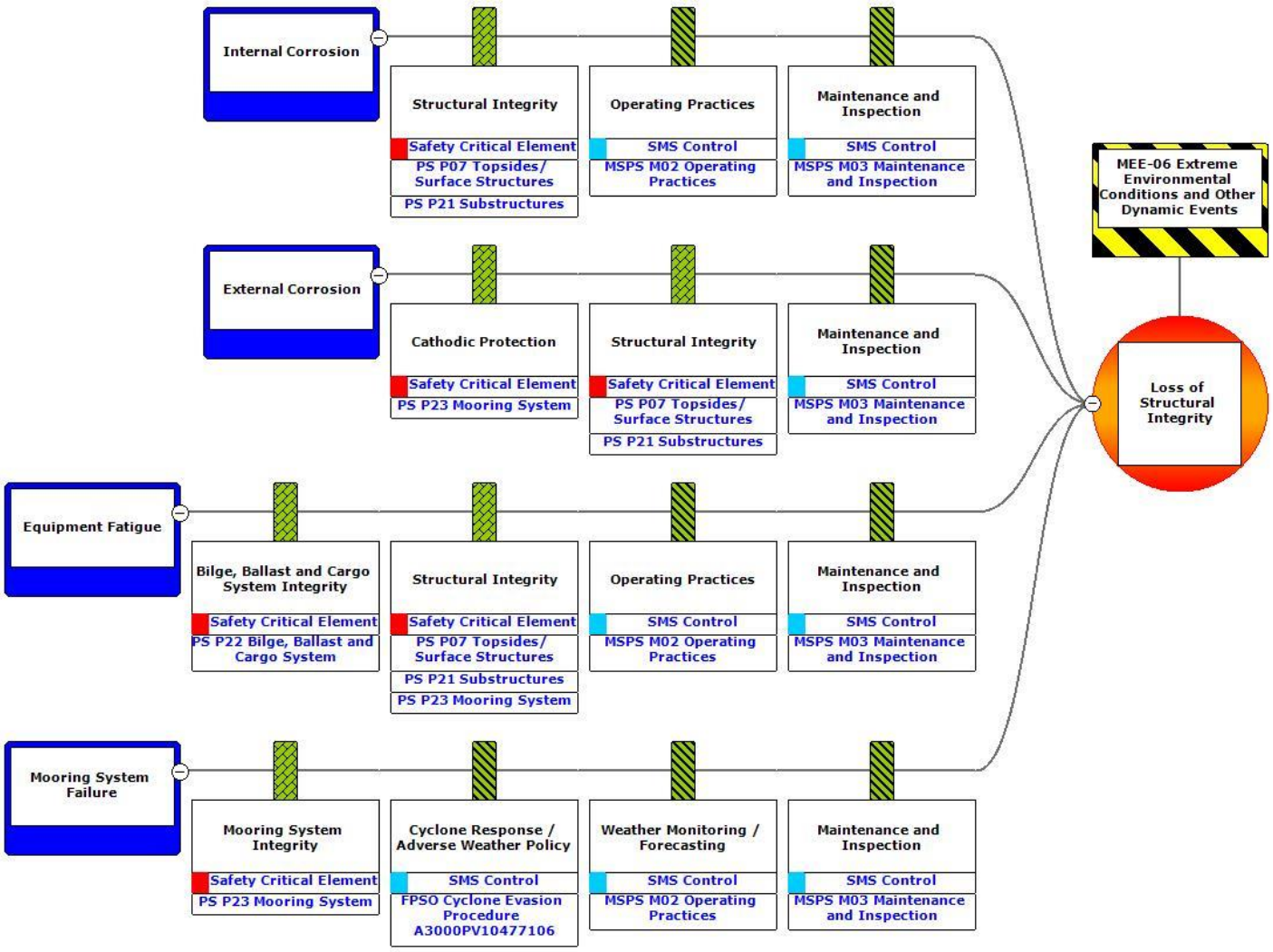


Figure 6-24: MEE-06 loss of structural integrity (causes 1 to 4)

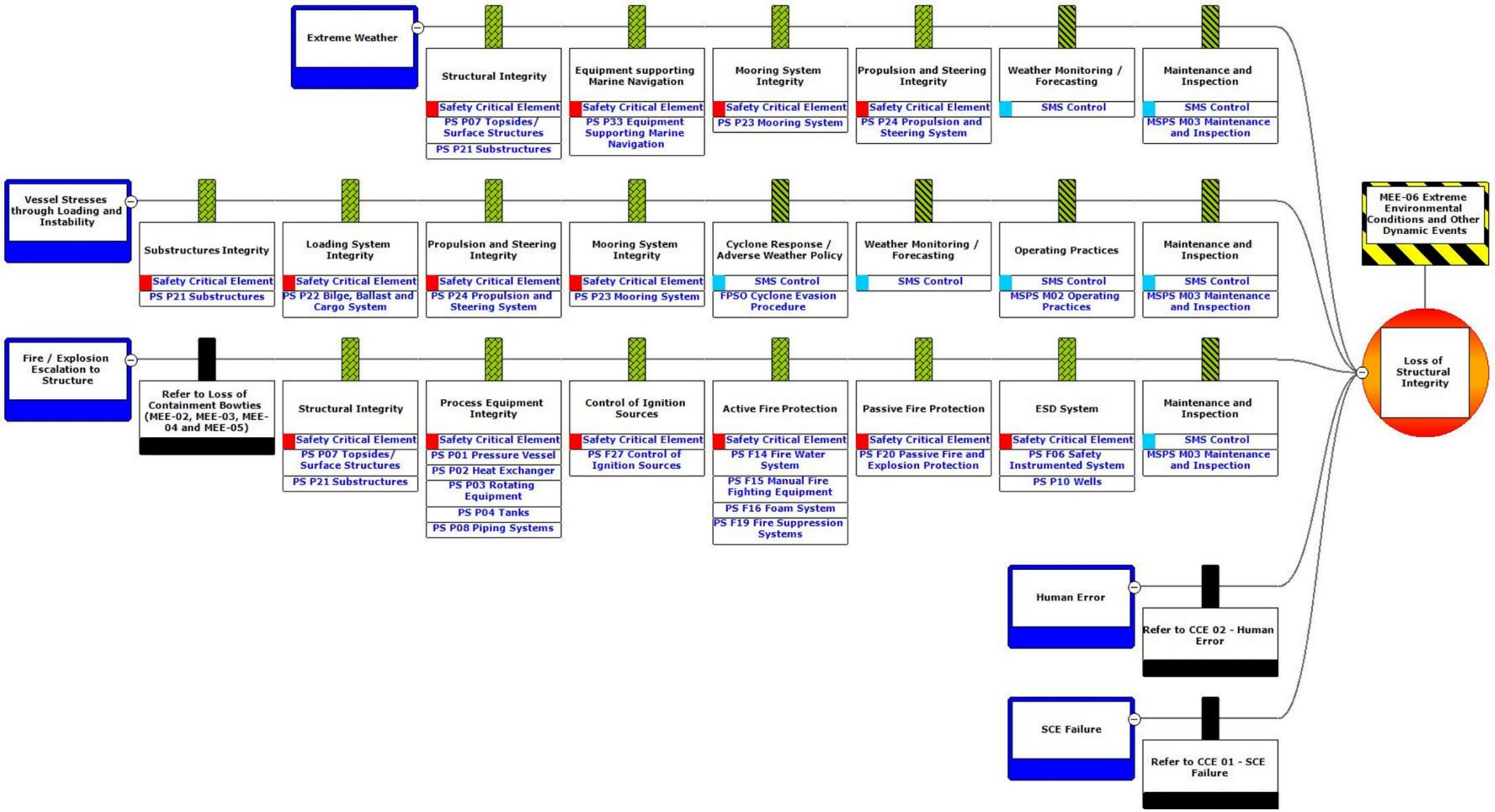


Figure 6-25: MEE-06 loss of structural integrity (causes 5 to 9)

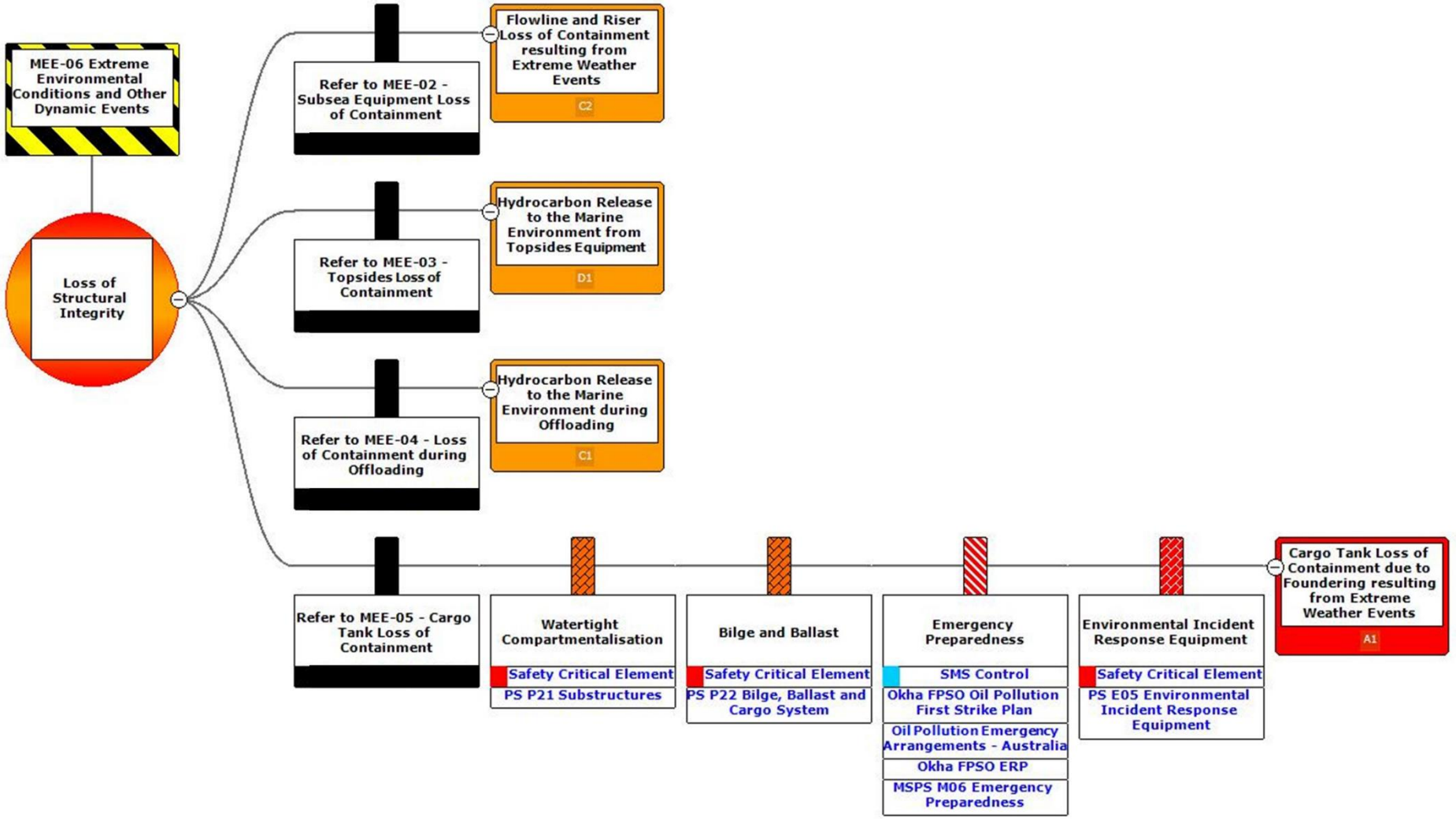


Figure 6-26: MEE-06 loss of structural integrity (outcomes)

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Preventive barriers – safety and environmental critical elements				
Elimination	N/A.	No elimination or substitution controls were identified beyond those incorporated in design.		
Substitution				
Engineering controls	Maintain structural integrity to ensure availability of critical systems	P01- Pressure Vessel P02 – Heat Exchanger P03 – Rotating Equipment P04 - Tanks P07 – Topsides/Surface Structure P08 – Piping systems P10 - Wells P21 – Substructures P22 – Bilge, Ballast and Cargo Systems P23 – Mooring Systems P24 – Propulsion and Steering Systems P33 – Equipment Supporting Marine Navigation	Prevention (technical)	C 17.1
Engineering controls	Maintain control of ignition sources and fire protection to prevent loss of structural integrity.	F06 – Safety Instrumented System F14 – Fire Water System F15 – Manual Fire Fighting Equipment F16 – Foam Systems F19 – Fire Suppression Systems F20 – Passive Fire and Explosion Protection F27 – Control of Ignition Sources	Prevention (technical)	C 17.2
Mitigating barriers – safety and environmental critical elements				
Engineering controls	Maintain vessel stability and structural integrity to prevent structural failures from contributing to escalation of an MEE.	P21 – Substructures P22 – Bilge, Ballast and Cargo Systems	Reduction (technical)	C 17.3
Emergency response	Maintain environmental incident response equipment to enact the Okha FPSO facility Oil Pollution First Strike Plan (Appendix H).	E05 – Environmental Incident Response Equipment	Mitigation (technical)	C 12.4
Legislation, codes and standards				
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024:	Okha FPSO facility Safety Case	Prevention (administration)	C 12.6

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
	Accepted Safety Case for the Okha FPSO facility.			
Procedures and administration	Incident reports are raised for unplanned releases within event reporting system.	Health, Safety and Environment Event Reporting and Investigation Procedure	Prevention/ mitigation (administration)	C 12.7
Management system specific measures – key standards or procedures				
Procedures and administration	Implement management systems to maintain: • M02 Operating Practices • M03 Maintenance and Inspections. • FPSO Cyclone Evasion Procedure	MSPS-02 Operating Practices MSPS-03 Maintenance and Inspections FPSO Cyclone Evasion Procedure	Prevention (administration)	See Section 7 Implementation Strategy
Emergency response and contingency planning	Implement management systems to maintain: • M06 Emergency Preparedness • Okha FPSO facility Emergency Response Plan • Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) • Oil Pollution Emergency Arrangements – Australia.	MSPS-06 Emergency Preparedness Okha FPSO facility Emergency Response Plan Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) Oil Pollution Emergency Arrangements – Australia	Mitigation (administration)	See Section 7 Refer to Appendix G for discussion around the ALARP assessment of controls related to hydrocarbon spill response
Risk-based analysis				
For risks identified as MEEs, a more detailed risk-based bowtie analysis (as outlined in Section 2.3.3) has been used to identify, analyse and demonstrate ALARP controls for each MEE. ALARP controls have been selected using the hierarchy of control principles and considering the independence of each barrier and their type of effect in controlling the hazardous event. By applying Woodside Risk Management Procedures and implementing the Okha Safety Case, hazards are continuously identified, risks are systematically assessed, and alternative control measures are continuously assessed to reduce risk to ALARP, which include: • ongoing hazard identification, risk assessment and identification of control measures • ongoing integrity management of hardware control measures in accordance with the technical performance standards, which define requirements to be suitably maintained such that they retain effectiveness, functionality, availability and survivability. For each SCE, detailed requirements for equipment functionality, availability, reliability and survivability are incorporated into SCE technical performance standards, which also include the relevant assurance tasks (e.g. inspection, maintenance, testing and monitoring requirements) to ensure technical integrity. Bowtie analysis was undertaken to assess MEE-06; refer to Figure 6-24 to Figure 6-26 for bowtie diagrams. A quantitative spill risk assessment was undertaken (refer **to** Section 6.7.2).				
Company values				
Refer to the company values in 'Demonstration of ALARP' for MEE-01 (Section 6.7.3).				
Societal values				
Refer to the societal values in 'Demonstration of ALARP' for MEE-01 (Section 6.7.3).				
ALARP statement:				

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with a hydrocarbon release from loss of structural integrity. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of acceptability
Acceptability statement:
The impact assessment has determined that, given the adopted controls, a release of hydrocarbon from a loss of structural integrity could result in a severe impact on receptors. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 17 No release of hydrocarbons to the marine environment from a structural integrity loss of containment.	C 17.1 Maintain structural integrity to ensure availability of critical systems.	PS 17.1 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P01- Pressure Vessel • P02 – Heat Exchanger • P03 – Rotating Equipment • P04 - Tanks • P07 – Topsides/Surface Structure • P08 – Piping systems • P10 - Wells • P21 – Topsides Surface Structure, to both: – provide and maintain structural integrity to support SCE systems under all design conditions during service life – prevent structural failure from contributing to the escalation of an	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		MEE by providing support/protection of SCE systems during an emergency event, and support containment of environmentally hazardous material • P22 – Bilge, Ballast and Cargo Systems, to: – maintain hull stress and vessel stability within integrity limits • P23 – Mooring Systems, to provide: – station-keeping within the allowable excursion envelope – ability to disconnect the facility from mooring on demand – ability to disconnect the offtake tanker from the facility on demand. • P24 – Propulsion and Steering Systems • P33 – Equipment Supporting Marine Navigation, to together (within Operational Area): – manoeuvre the facility under self-propulsion away from hazardous conditions – provide critical information to enable safe navigation of the FPSO, to allow the FPSO to disconnect and avoid adverse environmental conditions exceeding structural integrity limits.	
	C 17.2 Maintain control of ignition sources and fire protection to prevent loss of structural integrity.	PS 17.2 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE	MC 3.4.1 Refer to Section 6.6.2..

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		technical performance standard(s) to prevent environment risk related damage to SCEs for: • F06 – Safety Instrumented System • F14 – Fire Water System • F15 – Manual Fire Fighting Equipment • F16 – Foam Systems • F19 – Fire Suppression Systems, to together: – provide reliable and secure delivery of firefighting medium (e.g. firewater, gaseous suppressant, foam) at the required flows, pressures, coverage and discharge rates to reduce the likelihood of escalation – where safe to do so, enable facility emergency response personnel to apply fire-fighting medium to support fire control and limit escalation • F20 – Passive Fire and Explosion Protection, to: – mitigate the effects of a fire or explosion by maintaining the integrity of critical structure and equipment and limiting the potential for escalation • F27 – Control of Ignition Sources, to: – prevent ignition of flammable or explosive atmospheres within identified hazardous areas.	

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	C 16.3 Maintain vessel stability and structural integrity to prevent structural failures from contributing to escalation of an MEE.	PS 16.3 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P21 – Substructures, to: – prevent structural failure from contributing to escalation of an MEE by providing support/protection of SCE systems during an emergency event, and support containment of environmentally hazardous material • P22 – Bilge, Ballast and Cargo Systems, to: – maintain hull stress and vessel stability within integrity limits.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.4 Refer to Section 6.7.3	PS 12.4 Refer to Section 6.7.3	MC 3.4.1 Refer to Section 6.6.2.
	C 12.6 Refer to Section 6.7.3	PS 12.6 Refer to Section 6.7.3	MC 12.6.1 Refer to Section 6.7.3.
	C 12.7 Refer to Section 6.7.3	PS 12.7 Refer to Section 6.7.3	MC 12.7.1 Refer to Section 6.7.3

6.7.10 Unplanned hydrocarbon release: loss of marine vessel separation (MEE-07)

Context		
Subsea infrastructure – Section 3.5.3 Riser turret mooring system – Section 3.5.4 Facility support vessels – Section 3.8.1 IMMR support vessels – Section 3.8.2	Physical environment – Section 4.4 Biological environment – Section 4.5 Protected species – Section 4.6 Key ecological features – Section 4.7 Protected places – Section 4.8 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Hydrocarbon release caused by a loss of marine vessel separation, leading to: • MEE-02 – subsea flowline and riser loss of containment • MEE-03 – topsides loss of containment • MEE-04 – offtake equipment loss of containment • MEE-05 – Okha FPSO facility cargo tank loss of containment	X	X	X	X	X	X	B	A	1	H	LCS GP PJ RBA CV SV	Acceptable if ALARP	EPO 18

Description of source of risk

Background

A loss of marine vessel separation between a vessel and the Okha FPSO facility could result in a loss of hydrocarbon containment from the FPSO or a release of fuel from the vessel. A vessel collision with the Okha FPSO facility has been identified as a potential MEE (MEE-07). Vessel collisions can arise from:

- visiting vessel collisions associated with support vessels and offtake tankers – ships that are visiting can accidentally collide with the Okha FPSO facility during approach to, or manoeuvring alongside, the FPSO
- errant passing vessel collision – ships that are not visiting the Okha FPSO facility (i.e. passing vessels) can, for one reason or another, move off-course and collide with the FPSO.

The different collision hazards involve significantly different sized vessels and collision speeds, hence, differing impact energies and consequences, and have been assessed.

Note, loss of containment from the FPSO diesel tanks is considered within Section 6.7.8 (MEE-05 – FPSO cargo tank loss of containment)

Visiting vessels

Visiting vessels are defined as those which are routinely used for the Petroleum Activity. They include facility support vessels, IMMR vessels and offtake tankers. Operating procedures will dictate how vessels are operated, loaded and unloaded, but it will generally occur so the prevailing winds move the vessel away from the Okha FPSO facility. The primary causes of visiting vessel collisions are failure to follow safe procedures and communication errors between

the marine vessels and the FPSO. These errors could be worsened by vessel station-keeping failures or operations in adverse weather conditions.

Common failure causes due to human error and SCE failures are presented in the generic human error and SCE failure bowties in Section 6.7.13.

Errant passing vessels

Errant passing vessels are defined as third-party vessels that enter the 500 m PSZ without authorisation and which are not associated with the Petroleum Activity. The collision can be powered or drifting. Either has the potential to cause significant damage to the Okha FPSO facility.

The causes of errant passing vessel collisions include:

- failure of propulsion or steering systems
- adverse weather conditions resulting in poor visibility
- rough seas
- human error.

Woodside implements a range of control measures to mitigate the risk of errant vessel collision, described below.

Loss of vessel separation – credible hydrocarbon spill scenario

A loss of marine vessel separation could result in a significant release of hydrocarbons. Hydrocarbon releases will result in a spill to the marine environment, as described in Section 6.7.5 (MEE-02 – subsea flowline and riser loss of containment), Section 6.7.6 (MEE-03 – topsides loss of containment), Section 6.7.7 (MEE-04 – offtake equipment loss of containment) and Section 6.7.8 (MEE-05 – FPSO cargo tank loss of containment). Worst-case hydrocarbon release scenarios that could result from loss of marine vessel separation are discussed in the relevant sections referenced above. Relevant trajectory modelling, as applicable to these scenarios, is also discussed in the relevant sections.

A loss of vessel separation may lead to an accidental release of diesel from the fuel tanks on the vessel(s) involved. For a vessel collision to result in the worst-case scenario of a hydrocarbon spill potentially impacting an environmental receptor, several factors must align, being:

- vessel interaction must result in a collision
- the collision must have enough force to penetrate the vessel hull
- the collision must be in the exact location of the fuel tank
- the fuel tank must be full, or at least of a volume that is higher than the point of penetration.

The probability of the chain of events described above aligning, to result in a breach of fuel tanks resulting in a spill that could potentially affect the marine environment, is considered Highly Unlikely (1). Given the offshore location of the Operational Area, vessel grounding in relation to the Petroleum Activity is not considered a credible risk.

A collision between the Okha FPSO facility, support vessel or IMMR vessel with a third-party vessel (i.e. commercial shipping, other petroleum-related vessels and commercial fishing vessels) was considered the only credible event that could release a significant quantity of diesel to the environment. This was assessed as being credible but Highly Unlikely (1), given:

- the facility support vessels typically operate close to the Okha FPSO facility (an area avoided by commercial shipping and fishing)
- the presence of IMMR vessels in the Operational Area is typically temporary (e.g. while undertaking IMMR activities or while servicing the Okha FPSO facility)
- vessels undertaking the Petroleum Activity typically operate at low speeds or are stationary
- the standard vessel operations and equipment in place to prevent collision at sea, and the construction and placement of storage tanks.

In the highly unlikely event of a collision between the Okha FPSO facility, support vessel or IMMR vessel with a third-party vessel, the maximum volume likely to be released from rupture of a vessel diesel fuel tank has been estimated as 105 m³. This is based on the wing tank of support vessels holding around 100 m³ to 120 m³ diesel, the fuel tank being full, and a conservative assumption that 80% of the diesel fuel would spill to the marine environment. Release characteristics for a vessel diesel fuel tank loss of containment scenario are summarised in Table 6-25.

Table 6-25: Summary of the worst-case vessel diesel fuel tank loss of containment release scenario

Scenario	*Hydrocarbon*	*Duration (hours)*	*Depth (m)*	*Latitude (WGS84)*	*Longitude (WGS84)*	*Total diesel release volume (m³)*
Vessel diesel fuel tank loss of containment	Diesel	Instantaneous	Surface	19° 35’ 21” S	116° 26’ 48” E	105

Decision type, risk analysis and ALARP tools

Woodside has a good history of implementing industry standard practice in FPSO operation. In the company's 60-year history, it has not experienced any loss of vessel separation events that have resulted in significant releases or significant environmental impacts. The Okha FPSO facility has never experienced a worst-case hydrocarbon release from a loss of vessel separation in its operational history.

Decision type

Decision Type B has been applied to this risk under the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). This reflects the complexity of the risk, the higher potential consequence and stakeholder implications should the event be realised. To align with this decision type, a further level of analysis has been applied using risk-based tools including the bowtie methodology (described in Section 2.3.3) and hydrocarbon spill trajectory modelling. Company and societal values were also considered when demonstrating ALARP and acceptability, through peer review, benchmarking and stakeholder consultation.

A loss of marine vessel separation is considered an MEE (MEE-07). The hazard associated with this MEE is the hydrocarbon inventory on the Okha FPSO facility, subsea flowlines and riser, and fuel onboard vessels.

Quantitative spill risk assessment

Credible worst-case hydrocarbon scenarios for MEE-02, MEE-03, MEE-04 and MEE-05 are considered to apply to a loss of marine vessel separation, as they may credibly arise from damage to the Okha FPSO facility and loss of vessel fuel.

Refer to Sections 6.7.5, 6.7.6, 6.7.7 and 6.7.8 for more information about quantitative spill risk assessments for these scenarios.

Spill modelling of the worst-case credible loss of vessel diesel fuel was undertaken by RPS (RPS, 2019), on behalf of Woodside, to determine the fate of released hydrocarbons based on the assumptions in Section 6.7.2. Modelling was undertaken over all seasons to address year-round operations. This is considered to provide a conservative estimate of the EMBA and the potential impacts from the identified worst-case credible release volumes for all loss of hydrocarbon containment.

Consequence

The spatial extent and fate (including weathering) of the spilled hydrocarbon were considered during the impact assessment for a loss of vessel separation. These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS, available information about environmental sensitivities that may credibly be impacted in the event of a worst-case spill (Section 6.7.3), and relevant literature and studies considering the effects of hydrocarbon exposure.

Likelihood

In accordance with the Woodside Risk Matrix, given the prevention and mitigation measures in place (i.e. design, inspection and maintenance, infrastructure marked on marine charts), the likelihood has been assessed as Highly Unlikely (1).

Consequence assessment

Environmental value(s) potentially impacted

As discussed under 'Description of source of risk', the potential impacts from hydrocarbon release caused by a loss of marine separation are those that would result from:

- subsea infrastructure loss of containment, Section 6.7.5 (MEE-02)
- topsides loss of containment, Section 6.7.6 (MEE-03)
- offtake equipment loss of containment, Section 6.7.7 (MEE-04)
- cargo tank loss of containment, Section 6.7.8 (MEE-05).

The potential impacts are therefore discussed in the above-mentioned sections.

Modelling of the credible worst-case hydrocarbon spill scenario that may arise from MEE-05 (discussed in Section 6.7.8) indicates the spill may impact upon environmental receptors (Table 6-24). The biological consequences of such a spill on identified open-water sensitive receptors relate to the potential for catastrophic, long-term impacts to environmental receptors within the spill affected area. Potential impacts of a hydrocarbon spill to these receptors are considered in MEE-01 (Section 6.7.3).

Potential impacts relating to a vessel diesel fuel tank loss of containment are discussed in the next sections.

Surface hydrocarbons

The modelled surface hydrocarbons are forecast to drift down-current of the release location, with the trajectory dependent on prevailing wind and current conditions at the time. Modelling results indicate no contact with sensitive receptors by surface (floating) hydrocarbons above the ecological impact threshold (10 g/m²) or socio-cultural impact threshold (1 g/m²) at probabilities of 1% or greater.

Entrained hydrocarbons

Modelling results indicate no contact with sensitive receptors by entrained hydrocarbons above the ecological impact threshold (100 ppb) at probabilities of 1% or greater.

Dissolved hydrocarbons

Modelling results indicate no contact with sensitive receptors by dissolved hydrocarbons above the impact threshold (50 ppb) at probabilities of 1% or greater.

Accumulated hydrocarbons

Modelling results indicate no contact with sensitive receptors by accumulated shoreline hydrocarbons above the ecological impact threshold (100 g/m²) or the socio-cultural threshold (10 g/m²) at probabilities or 1% of greater, with a maximum accumulated volume of <1 m³ along all shoreline receptors.

MEE-07 loss of marine vessel separation – risk analysis
Bowtie risk analysis was undertaken to assess MEE-07; refer to Figure 6-27 and Figure 6-28 for bowtie diagrams.

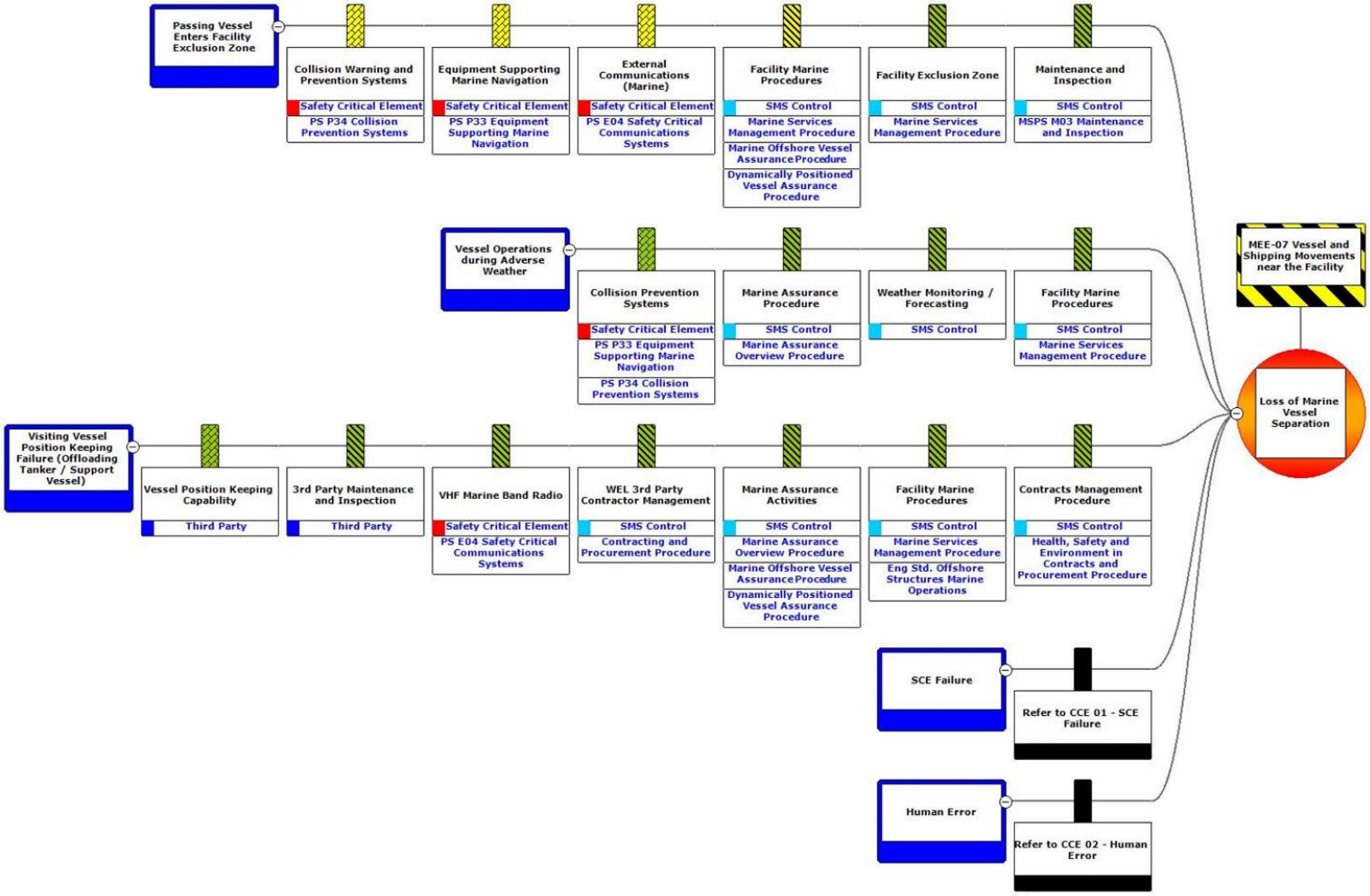


Figure 6-27: MEE-07 loss of marine vessel separation (causes 1 to 5)

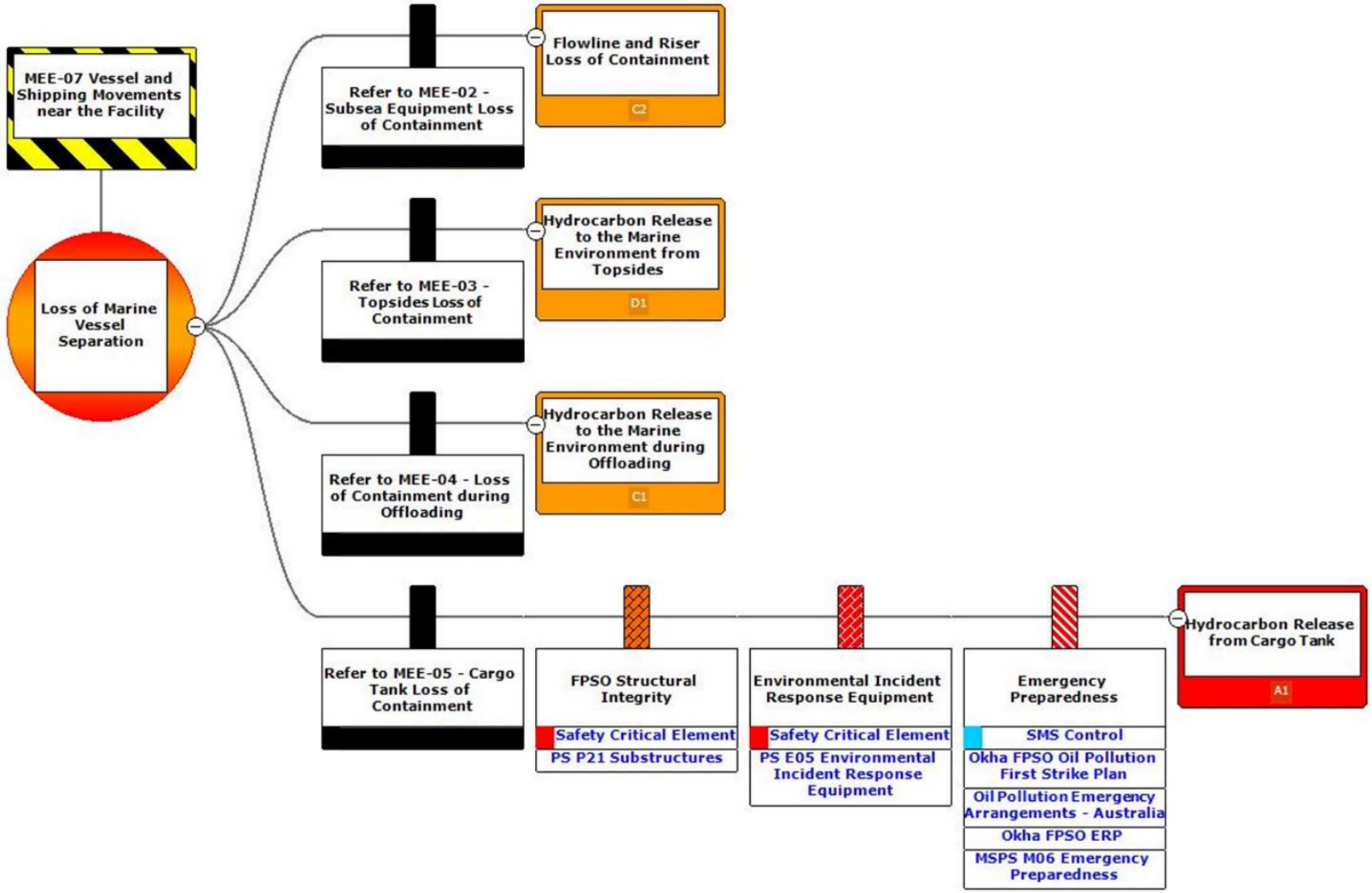


Figure 6-28: MEE-07 loss of marine vessel separation (outcomes)

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Preventive barriers – safety and environmental critical elements				
Elimination	N/A.	No elimination or substitution controls were identified beyond those incorporated in design.		
Substitution				
Engineering controls	Maintain collision warning systems and navigational aids and critical communications systems.	P33 – Equipment Supporting Marine Navigation P34 – Collision Prevention Systems E04 – Safety Critical Communications	Detection / Prevention (technical)	C 18.1
Mitigating barriers – safety and environmental critical elements				
Engineering controls	Maintain structural integrity	P21 – Substructures	Reduction (technical)	C 18.2
Engineering controls	Maintain environmental incident response equipment to enact the Okha FPSO facility Oil Pollution First Strike Plan (Appendix H).	E05 – Environmental Incident Response Equipment	Mitigation (technical)	C 12.4
Legislation, codes and standards				
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024: Accepted Safety Case for the Okha FPSO facility.	Okha FPSO facility Safety Case	Prevention (administration)	C 12.6
Procedures and administration	Incident reports are raised for unplanned releases within event reporting system.	Woodside Health, Safety and Environment Event Reporting and Investigation Procedure	Prevention/ mitigation (administration)	C 12.7
Management system specific measures – key standards or procedures				
Procedures and administration	Implement management systems to maintain: • M03 Maintenance and Inspections • Contracting and Procurement Procedure • Marine Operations Standard • Marine Assurance Overview Procedure • Health, Safety and Environment in Contracts and Procurement Procedure • Eng Std. Offshore Structures Marine Operations	M03 Maintenance and Inspections Contracting and Procurement Procedure Marine Operations Standard Marine Assurance Overview Procedure Dynamically Positioned Vessel Assurance Procedure Offshore Vessel Assurance Standard Health, Safety and Environment in Contracts and Procurement Procedure Eng Std. Offshore Structures Marine Operations	Prevention (administration)	See Section 7 Implementation Strategy

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Emergency response and contingency planning	Implement management systems to maintain: • M06 Emergency Preparedness • Okha FPSO facility Emergency Response Plan • Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) • Oil Pollution Emergency Arrangements – Australia.	MSPS-06 Emergency Preparedness Okha FPSO facility Emergency Response Plan Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) Oil Pollution Emergency Arrangements – Australia	Mitigation (administration)	See Section 7 Refer to Appendix G for discussion around the ALARP assessment of controls related to hydrocarbon spill response.
Risk-based analysis				
For risks identified as MEEs, a more detailed risk-based bowtie analysis (as outlined in Section 2.3.3) has been used to identify, analyse and demonstrate ALARP controls for each MEE. ALARP controls have been selected using the hierarchy of control principles and considering the independence of each barrier and their type of effect in controlling the hazardous event. By applying Woodside Risk Management Procedures and implementing the Okha FPSO facility Safety Case, hazards are continuously identified, risks are systematically assessed, and alternative control measures are continuously assessed to reduce risk to ALARP, which include: • ongoing hazard identification, risk assessment and identification of control measures • ongoing integrity management of hardware control measures in accordance with the technical performance standards, which define requirements to be suitably maintained such that they retain effectiveness, functionality, availability and survivability. For each SCE, detailed requirements for equipment functionality, availability, reliability and survivability are incorporated into SCE technical performance standards, which also include the relevant assurance tasks (e.g. inspection, maintenance, testing and monitoring requirements) to ensure technical integrity. Bowtie analysis was undertaken to assess MEE-07; refer to Figure 6-27 and Figure 6-28 for bowtie diagrams. A quantitative spill risk assessment was undertaken (refer Section 6.7.2).				
Company values				
Refer to the company values in 'Demonstration of ALARP' for MEE-01 (Section 6.7.3).				
Societal values				
Refer to the societal values in 'Demonstration of ALARP' for MEE-01 (Section 6.7.3).				
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential risk associated with a release of hydrocarbon from a loss of vessel separation. As no reasonably practicable additional/alternative controls were identified that would further reduce the risk without disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact assessment has determined that, given the adopted controls, a release of hydrocarbon from a loss of vessel separation could result in a severe impact on sensitive features. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 18 No release of hydrocarbons to the marine environment from a loss of marine vessel separation	C 18.1 Maintain collision warning systems and navigational aids and critical communications systems.	PS 18.1 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P33 – Equipment Supporting Marine Navigation, to: – provide critical information to safely navigate the FPSO in disconnected mode to avoid an MEE • P34 – Collision Prevention Systems, to: – alert the facility of a potential collision with marine vessels – alert marine vessels of the facility's location so they may take timely action to avoid the facility and hence reduce the likelihood of collision • E04 – Safety Critical Communications, to: – allow effective emergency response communications in emergencies, including: ▪ internal communications such as audible and visual warning systems, and voice communications ▪ external communications such as voice communications to adjacent facilities, aircraft	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		and vessels, and external incident control centres.	
	C 18.2 Maintain structural integrity.	PS 18.2 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P21 – Substructures, to: • provide and maintain structural integrity to support SCE systems under all design conditions during service life • prevent structural failure from contributing to escalation of an MEE by providing support/ protection of SCE systems during an emergency, and support containment of environmentally hazardous material.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.4 Refer to Section 6.7.3	PS 12.4 Refer to Section 6.7.3	MC 3.4.1 Refer to Section 6.6.2.
	C 12.6 Refer to Section 6.7.3	PS 12.6 Refer to Section 6.7.3	MC 12.6.1 Refer to Section 6.7.3
	C 12.7 Refer to Section 6.7.3	PS 12.7 Refer to Section 6.7.3	MC 11.7.1 Refer to Section 6.7.3

6.7.12 Unplanned hydrocarbon release: loss of control of suspended load from Okha lifting operations (MEE-08)

Context		
Lifting operations – Section 3.6.9	Physical environment – Section 4.4 Biological environment – Section 4.5 Key ecological features – Section 4.7 Protected places – Section 4.8 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Hydrocarbon release from subsea infrastructure to the marine environment and atmosphere (MEE-02)	X	X	X	X	X	X	B	C	1	M	LCS GP PJ RBA CV	Acceptable if ALARP	EPO 19
Hydrocarbon release from topsides equipment to the marine environment and atmosphere (MEE-03)	X	X	X	X	X	X	B	D	1	M			

Description of source of risk

Background

The Okha FPSO facility is equipped with four rotating cranes and one overhead crane. Lifting takes place between supply vessels and laydown areas or between laydown areas. The main deck cranes are equipped with 'lock-out' zones, to prevent lifting over sensitive areas or equipment without implementing additional controls and to eliminate the potential for a crane to strike other structures or obstacles, such as the flare tower or accommodation block.

Lifting operations performed using the Okha FPSO facility or visiting vessel cranes could potentially lead to dropped objects impacting assets (topsides equipment, subsea infrastructure). This may lead to a hydrocarbon loss of containment from topsides or subsea infrastructure. Loss of suspended load has been identified as an MEE (MEE-08). A loss of suspended load may arise from:

- Okha FPSO facility lifting equipment failure
- facility lifting operations.

Common failure causes due to human error and SCC failures are presented in the generic human error and SCE failure bowties in Section 6.7.13.

Loss of suspended load – credible hydrocarbon spill scenario

The potential outcome of a loss of control of a suspended load is a topsides or subsea flowlines and riser loss of containment. Refer to Sections 6.7.5 and 6.7.6 for a description of subsea infrastructure and topsides loss of containment scenarios, respectively.

Decision type, risk analysis and ALARP tools

Woodside has a good history of implementing industry standard practice in FPSO operation. In the company's 60-year history, it has not experienced any loss of control of suspended load events that have resulted in significant releases or significant environmental impacts.

Decision type

Decision Type B has been applied to this risk under the Guidance on Risk Related Decision Making (Oil and Gas UK, 2014). This reflects the complexity of the risk, the higher potential consequence, and stakeholder implications should the event be realised. To align with this decision type, a further level of analysis has been applied using risk-based tools, including the bowtie methodology (described in Section 2.3.3) and hydrocarbon spill trajectory modelling. Company values were also considered when demonstrating ALARP and acceptability.

The release of hydrocarbons as a result of subsea loss of containment is considered an MEE (MEE-08). The hazard associated with this MEE is the hydrocarbon inventory of subsea flowlines and risers, or topsides process and non-process hydrocarbons equipment.

Note that Woodside has assessed the environmental consequence of a worst-case credible loss of containment from subsea infrastructure (refer MEE-02) as 'C', as per the Woodside Risk Matrix. Woodside has also assessed the reputational and brand consequences associated with this release and concluded that the event results in a 'B' level consequence, and hence meets Woodside's definition of an MEE (refer to Section 2.3.2).

Quantitative spill risk assessment

Credible worst-case hydrocarbon scenarios for MEE-02 and MEE-03 are considered to apply to a loss of control of suspended load, as they may credibly arise from damage to hydrocarbon-containing subsea infrastructure within the 500 m PSZ and Okha FPSO facility's topsides infrastructure. Refer to Sections 6.7.5 and 6.7.6 for more information about quantitative spill risk assessments for these scenarios.

Consequence

The spatial extent and fate (including weathering) of the spilled hydrocarbon were considered during the impact assessment for a worst-case loss of suspended load. These considerations were informed primarily by the outputs from the numerical modelling studies undertaken by RPS, available information about environmental sensitivities that may credibly be impacted in the event of a worst-case spill (Section 6.7.2), and relevant literature and studies considering the effects of hydrocarbon exposure.

Likelihood

In accordance with the Woodside Risk Matrix, given the prevention and mitigation measures in place (i.e. design, inspection and maintenance), the likelihood has been assessed as Highly Unlikely (1).

Consequence assessment

Environmental value(s) potentially impacted

As discussed under 'Description of source of risk', the potential impacts from hydrocarbon release caused by a loss of control of suspended load are those that would result from:

- subsea infrastructure loss of containment, Section 6.7.5 (MEE-02)
- topsides loss of containment, Section 6.7.6 (MEE-03).

The potential impacts are therefore discussed in the above-mentioned sections.

MEE-08 loss of control of suspended load from Okha lifting operations – risk analysis

Bowtie risk analysis was undertaken to assess MEE-08; refer to Figure 6-29 and Figure 6-30 for bowtie diagrams.

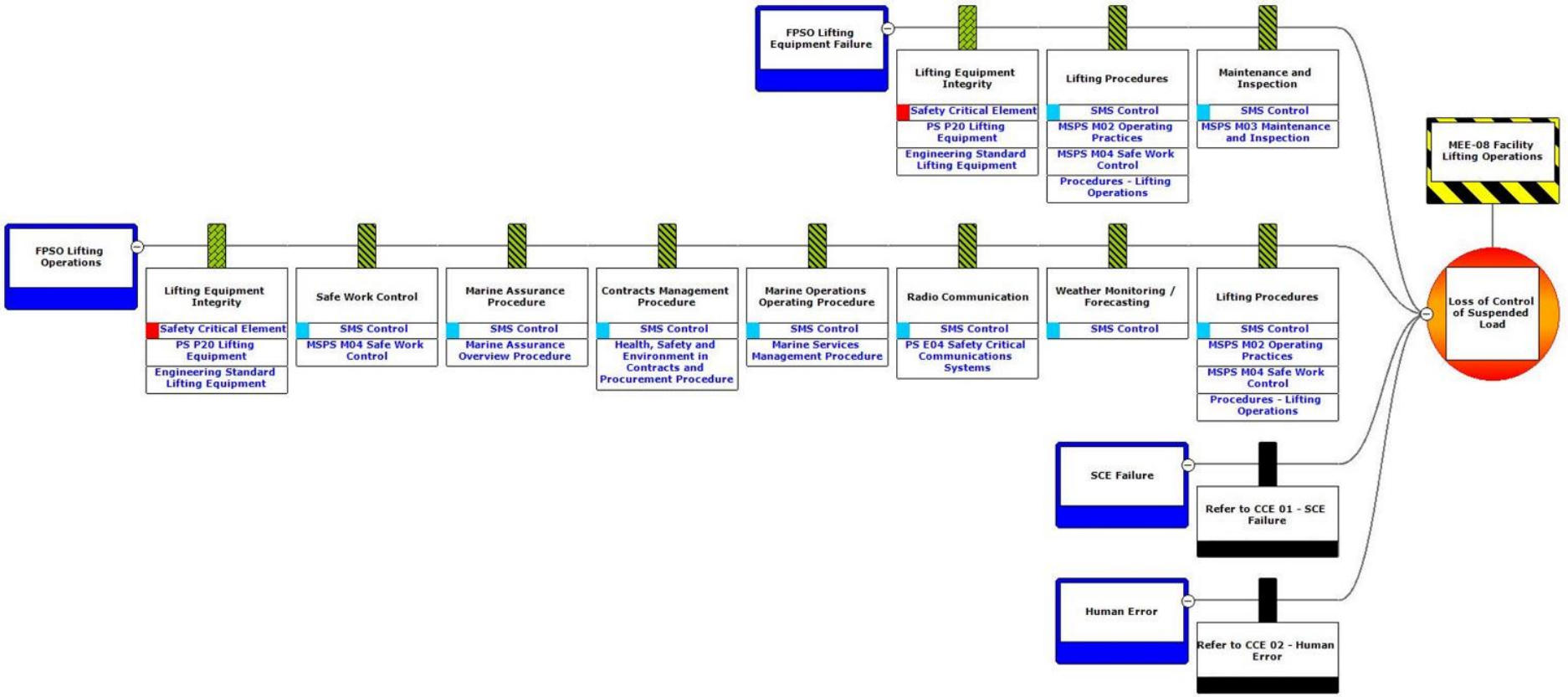


Figure 6-29: MEE-08 loss of control of suspended load from Okha lifting operations (causes 1 to 4)

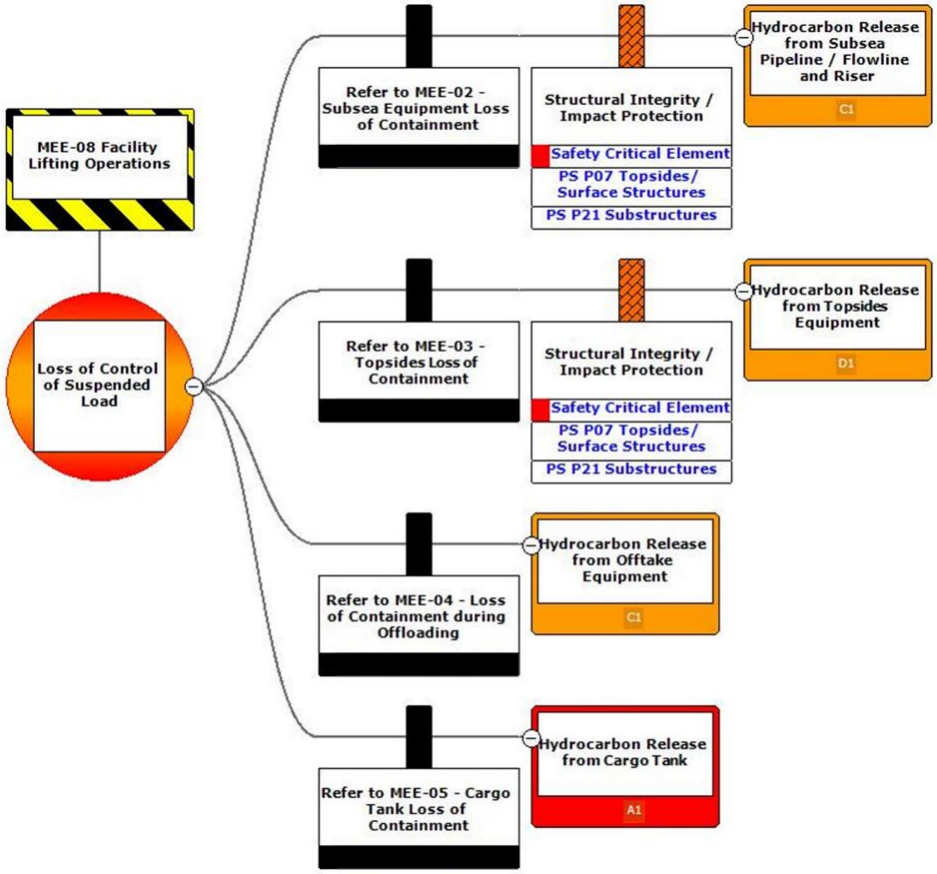


Figure 6-30: MEE-08 loss of control of suspended load from Okha lifting operations (outcomes)

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Preventive barriers – safety and environmental critical elements				
Elimination Substitution	N/A.	No elimination or substitution controls were identified beyond those incorporated in design.		
Engineering controls	Maintain integrity of Okha FPSO facility lifting equipment	P20 – Lifting Equipment	Prevention (technical)	C 19.1
Engineering Controls	Maintain availability of critical external and internal communication systems	E04 – Safety Critical Communications	Prevention (administration)	C 12.2
Mitigating barriers – safety and environmental critical elements				
Impact protection	Maintain structural integrity (impact protection) to ensure availability of critical systems during a major accident or environmental event and prevent structural failures from contributing escalation of MEE.	P07 – Topsides Surface Structure P21 – Substructures	Reduction (technical)	C 19.2
Emergency response	Maintain environmental incident response equipment to enact the Okha FPSO facility Oil Pollution First Strike Plan.	E05 – Environmental Incident Response Equipment	Mitigation (technical)	C 12.4
Legislation, codes and standards				
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024: Accepted Safety Case for the Okha FPSO facility	Okha FPSO facility Safety Case	Prevention (administration)	C 12.6
Procedures and administration	Incident reports are raised for unplanned releases within the event reporting system.	Woodside Health, Safety and Environment Event Reporting and Investigation Procedure	Prevention(administration)	C 12.7
Management system specific measures – key standards or procedures				
Procedures and administration	Implement management systems to maintain: • M02 Operating practices • M03 Maintenance and Inspection • M04 Safe Work Control • Procedures – Lifting Operations. • Marine Assurance Overview Procedure	Engineering Standard Lifting Equipment MSPS M02 Operating practices MSPS-03 Maintenance and Inspection MSPS-04 Safe Work Control Lifting Operations Procedure Marine Assurance Overview Procedure	Prevention (administration)	See Section 7 Implementation Strategy

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Procedures and administration	Implement management systems to maintain: • Engineering Standard Lifting Equipment	Engineering Standard Lifting Equipment	Prevention (technical)	See Section 7 Implementation Strategy
Emergency response and contingency planning	Implement management systems to maintain: • M06 Emergency Preparedness • Okha FPSO facility Emergency Response Plan • Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) • Oil Pollution Emergency Arrangements – Australia.	MSPS-06 Emergency Preparedness Okha FPSO facility Emergency Response Plan Okha FPSO facility Oil Pollution First Strike Plan (Appendix H) Oil Pollution Emergency Arrangements – Australia	Mitigation (administration)	See Section 7 Refer to Appendix G for discussion around the ALARP assessment of controls related to hydrocarbon spill response
Risk-based analysis				
For risks identified as MEEs, a more detailed risk-based bowtie analysis (as outlined in Section 2.3.3) has been used to identify, analyse and demonstrate ALARP controls for each MEE. ALARP controls have been selected using the hierarchy of control principles and considering the independence of each barrier and their type of effect in controlling the hazardous event. By applying Woodside Risk Management Procedures and implementing the Okha Safety Case, hazards are continuously identified, risks are systematically assessed, and alternative control measures are continuously assessed to reduce risk to ALARP, which include: • ongoing hazard identification, risk assessment and identification of control measures • ongoing integrity management of hardware control measures in accordance with the technical performance standards, which define requirements to be suitably maintained such that they retain effectiveness, functionality, availability and survivability. For each SCE, detailed requirements for equipment functionality, availability, reliability and survivability are incorporated into SCE technical performance standards, which also include the relevant assurance tasks (e.g. inspection, maintenance, testing and monitoring requirements) to ensure technical integrity. Bowtie analysis was undertaken to assess MEE-08; refer to Figure 6-29 and Figure 6-30 for bowtie diagrams. A quantitative spill risk assessment was undertaken (refer Section 6.7.2).				
Company values				
Refer to the company values in ‘Demonstration of ALARP’ for MEE-01 (Section 6.7.3).				
Societal values				
Refer to the societal values in ‘Demonstration of ALARP’ for MEE-01 (Section 6.7.3).				
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside’s criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts associated with a hydrocarbon release resulting from a loss of control of a suspended load. As no reasonably practicable additional/alternative controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts are considered ALARP.				

Demonstration of acceptability
Acceptability statement:

Demonstration of acceptability
The impact assessment has determined that, given the adopted controls, a hydrocarbon release from a loss of control of a suspended load could result in moderate impact on environmental features with limited ability to recover. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type B; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 19 No release of hydrocarbons to the marine environment from a loss of suspended load.	C 19.1 Maintain integrity of Okha FPSO facility lifting equipment to prevent platform lifting equipment failure or dropped/swinging loads	PS 19.1 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P20 – Lifting Equipment, – to prevent lifting equipment failure or dropped/swinging loads that could result in an MEE by maintaining lifting equipment integrity.	MC 3.4.1 Refer to Section 6.6.2.
	C 19.2 Maintain structural integrity (impact protection) to ensure availability of critical systems during a major accident or environmental event and prevent structural failures from contributing escalation of MEE.	PS 19.2 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P07 – Topsides Surface Structure • P21 – Substructures together: • provide and maintain structural integrity to support SCE systems under all design conditions during service life • prevent structural failure from contributing to the escalation of an MEE by providing support/protection of	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		SCE systems during an emergency event, and/or support containment of environmentally hazardous material.	
	C 12.4 Refer to Section 6.7.3	PS 12.4 Refer to Section 6.7.3	MC 3.4.1 Refer to Section 6.6.2.
	C 12.6 Refer to Section 6.7.3	PS 12.6 Refer to Section 6.7.3	MC 12.6.1 Refer to Section 6.7.3
	C 12.7 Refer to Section 6.7.3	PS 12.7 Refer to Section 6.7.3	MC 12.7.1 Refer to Section 6.7.3

6.7.13 Major environmental event common cause event failure mechanisms: safety and environment critical failure CCE-01 and human error CCE-02

This section presents common mode failure causes and controls applicable across MEEs, which are also observed within the bowties of the MEEs discussed within sections above. Controls, EPSs and MC presented within this section are also considered relevant to MEE-01 through to MEE-08.

Okha: Major environment event datasheet	
MEE number:	All
Hazard description:	Generic SCE failure
Hazard description	
Causes that contribute to failures of SCEs and other systems which might protect against a MEE include: • maintenance errors • defects • electrical supply failure • hydraulic supply failure • adverse environmental conditions. The generic SCE failure bowtie (Figure 6-31 and Figure 6-32) illustrates the causes, outcomes and the controls in place to manage these failure mechanisms.	
Hazard management (bowtie diagrams)	

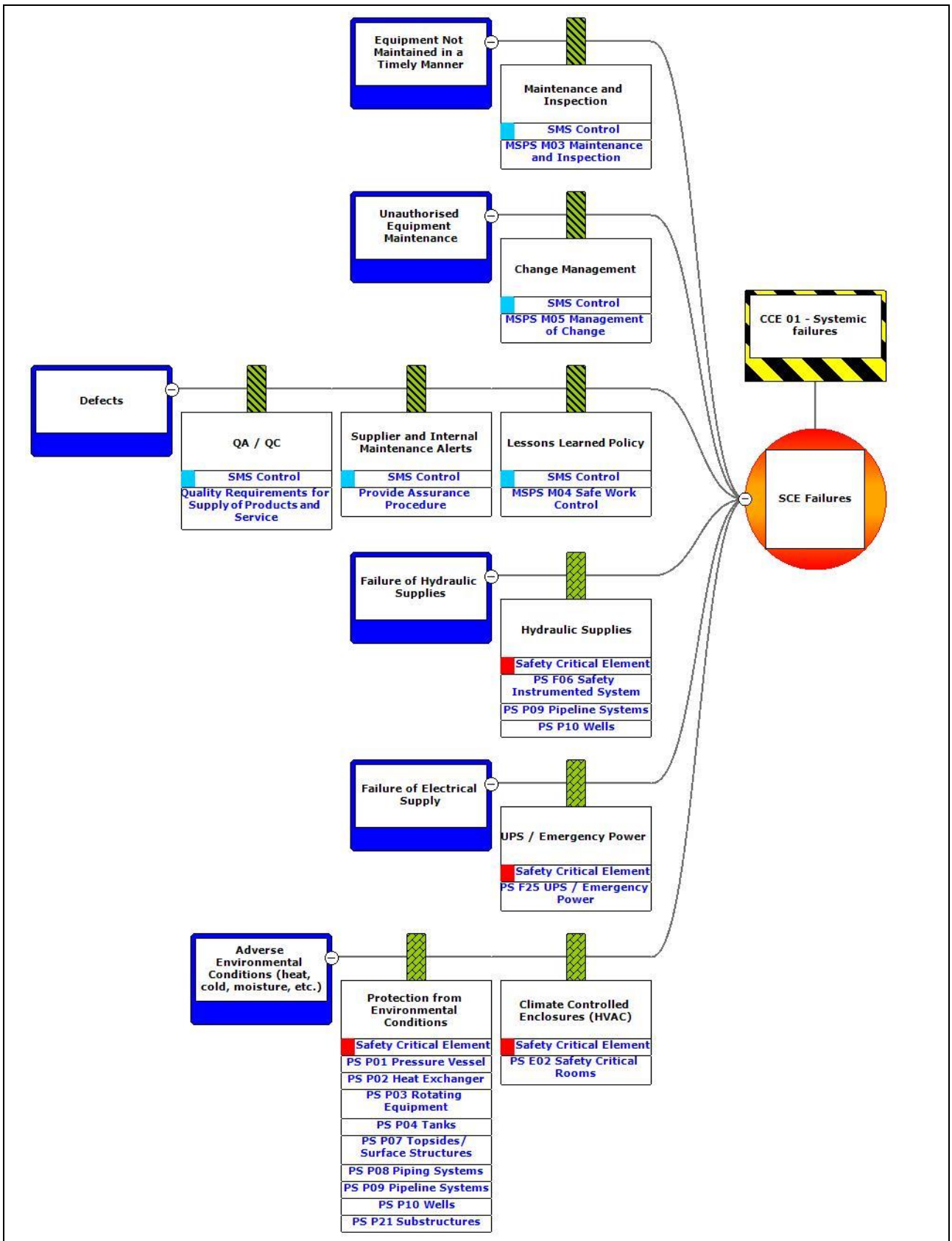


Figure 6-31: Generic bowtie – safety and environment critical element failures (causes)

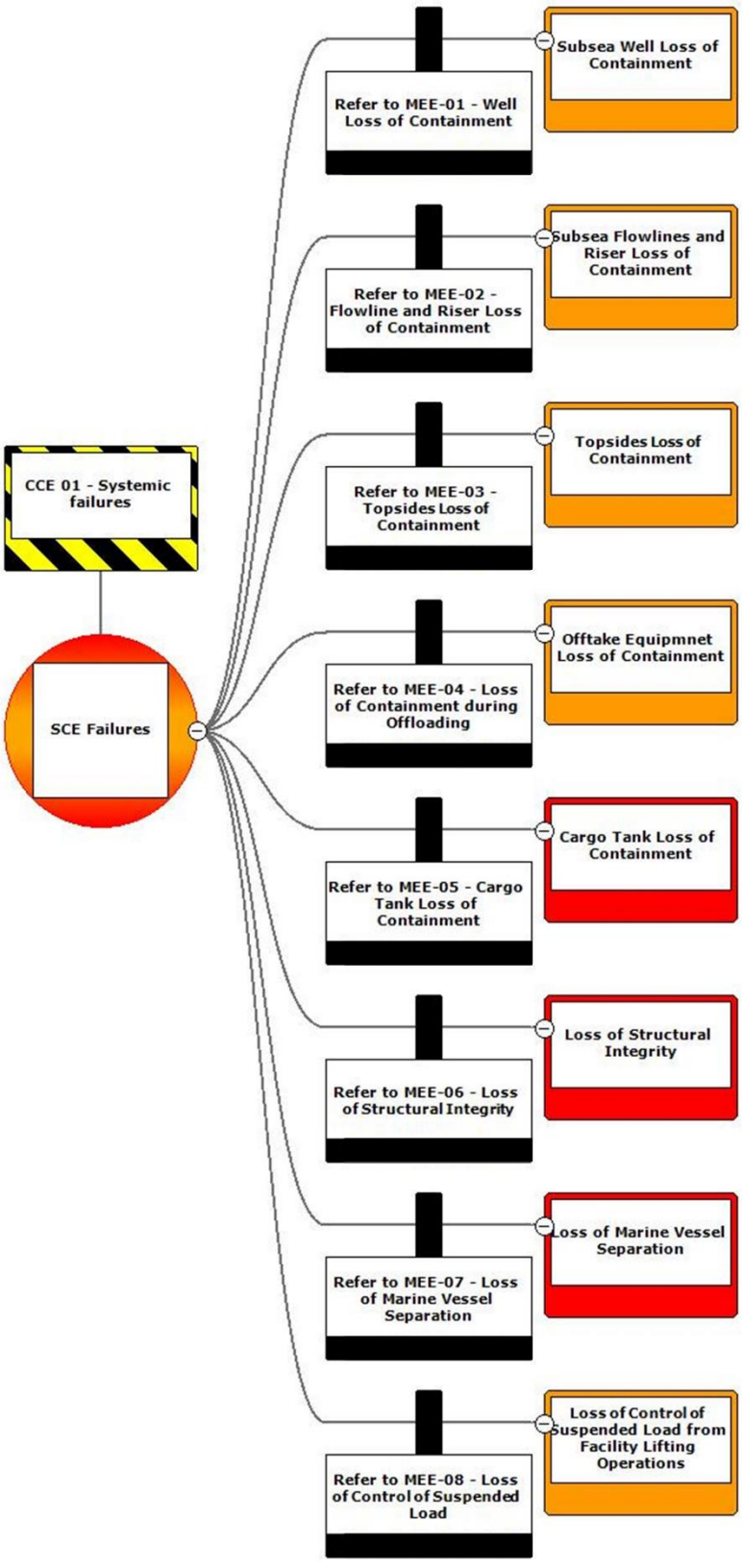


Figure 6-32: Generic bowtie – safety and environment critical element failures (outcomes)

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Preventive barriers – safety and environmental critical elements				
Elimination	Maintain hydraulic supplies (e.g. to support safety instrumented systems and actuation of SCE valves/isolations).	F06 – Safety Instrumented System P10 – Wells	Elimination (technical)	C 20.1
	Maintain protection from environmental conditions.	P01 – Pressure Vessel P02 – Heat Exchanger P03 – Rotating Equipment P07 – Topsides Surface Structure P08 – Piping Systems P09 – Pipeline Systems P10 – Wells P21 – Substructures	Elimination (technical)	C 20.2
Substitution	N/A.	No elimination or substitution controls were identified beyond those incorporated in design.		
Engineering controls	Maintain uninterrupted power supply (UPS)/emergency power system to supply essential safety systems.	F25 – UPS/Emergency Generation Systems	Prevention (technical)	C 20.3
	Maintain climate-controlled enclosures to protect essential equipment from adverse environmental conditions.	E02 – Temporary Refuge	Prevention (technical)	C 20.4
Mitigating barriers – safety and environmental critical elements				
Mitigation	N/A.	No mitigation controls were identified beyond those incorporated in design.		
Legislation, codes and standards				
Procedures and administration	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024: Accepted Safety Case for the Okha FPSO facility.	Okha FPSO facility Safety Case	Prevention (Administration)	C 12.6
Management system specific measures – key standards or procedures				
Procedures and administration	Implement management systems to maintain: • M03 Maintenance and Inspection • M04 Safe Work Control • M05 Management of Change • Quality Requirements for Supply of Products and Service • Provide Assurance Procedure.	MSPS-03 Maintenance and Inspection MSPS-04 Safe Work Control MSPS-05 Management of Change Quality Requirements for Supply of Products and Service Provide Assurance Procedure	Prevention (administration)	See Section 7 Implementation Strategy

Demonstration of ALARP				
Hierarchy	***Control considered***	***SCE/management system reference***	***Type of effect (Table 6-16)***	***Control adopted***
Risk evaluation				
Refer to MEEs.				

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
Refer to relevant MEE EPOs: • EPO 13 • EPO 14 • EPO 15 • EPO 16 • EPO 17 • EPO 18 • EPO 19	C 20.1 Maintain hydraulic supplies (e.g. to support safety instrumented systems and actuation of SCE valves/isolations).	PS 20.1 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • F06 – Safety Instrumented System • P10 – Wells, to together maintain hydraulic supplies (e.g. to support safety instrumented systems and actuation of SCE valves/isolations).	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	C 20.2 Maintain protection from environmental conditions.	PS 20.2 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • P01 – Pressure Vessel • P02 – Heat Exchanger • P03 – Rotating Equipment • P04 – Tanks • P07 – Topsides Surface Structure • P08 – Piping Systems • P09 – Pipeline Systems • P10 – Wells • P21 – Substructures, for each SCE to protect equipment from adverse environmental conditions (e.g. heat, cold, moisture, chemical reaction/ incompatibility).	MC 3.4.1 Refer to Section 6.6.2.
	C 20.3 Maintain UPS/emergency power system to supply essential safety systems.	PS 20.3 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • F25 – UPS/Emergency Generation Systems, to provide continuous supply of power (emergency generation and UPS to essential loads after a total (mains) power failure.	MC 3.4.1 Refer to Section 6.6.2.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	C 20.4 Maintain climate-controlled enclosures to protect essential equipment from adverse environmental conditions.	PS 20.4 Integrity is managed in accordance with the Management of Hardware Controls in the Operate Phase Procedure (Section 7.2.9.2) and SCE technical performance standard(s) to prevent environment risk related damage to SCEs for: • E02 – Temporary Refuge, to protect essential equipment from adverse environmental conditions/ fire and explosion.	MC 3.4.1 Refer to Section 6.6.2.
	C 12.6 Refer to Section 6.7.3.	PS 12.6 Refer to Section 6.7.3.	MC 12.6.1 Refer to Section 6.7.3

Okha: Major environment event datasheet	
MEE number:	All
Hazard description:	Generic human errors – degradation factors
Hazard reference ID:	N/A

Hazard description

There are multiple causes of human errors that contribute to MEEs or can result in failure or degradation of the barriers in place to protect against MEEs. These are presented in the next bowtie pages (Figure 6-33 to Figure 6-35) and include:

- inadequate procedures and documentation
- inadequate communication
- task factors - complex, unfamiliar or demanding task
- inadequate human-computer/machine Interface
- ambient environmental factors
- inadequate training and experience
- personal factors (e.g. fatigue, fitness).
- social and team factors (safety culture; supervision; resources)

The generic human errors bowtie illustrates the causes, outcomes and the barriers in place for these failure mechanisms. Human errors are managed solely via the WMS (no SCEs) and the bowtie is included in this section for completeness. Refer to Section 7 for applicable management system procedures.

Hazard management (bowtie diagrams)

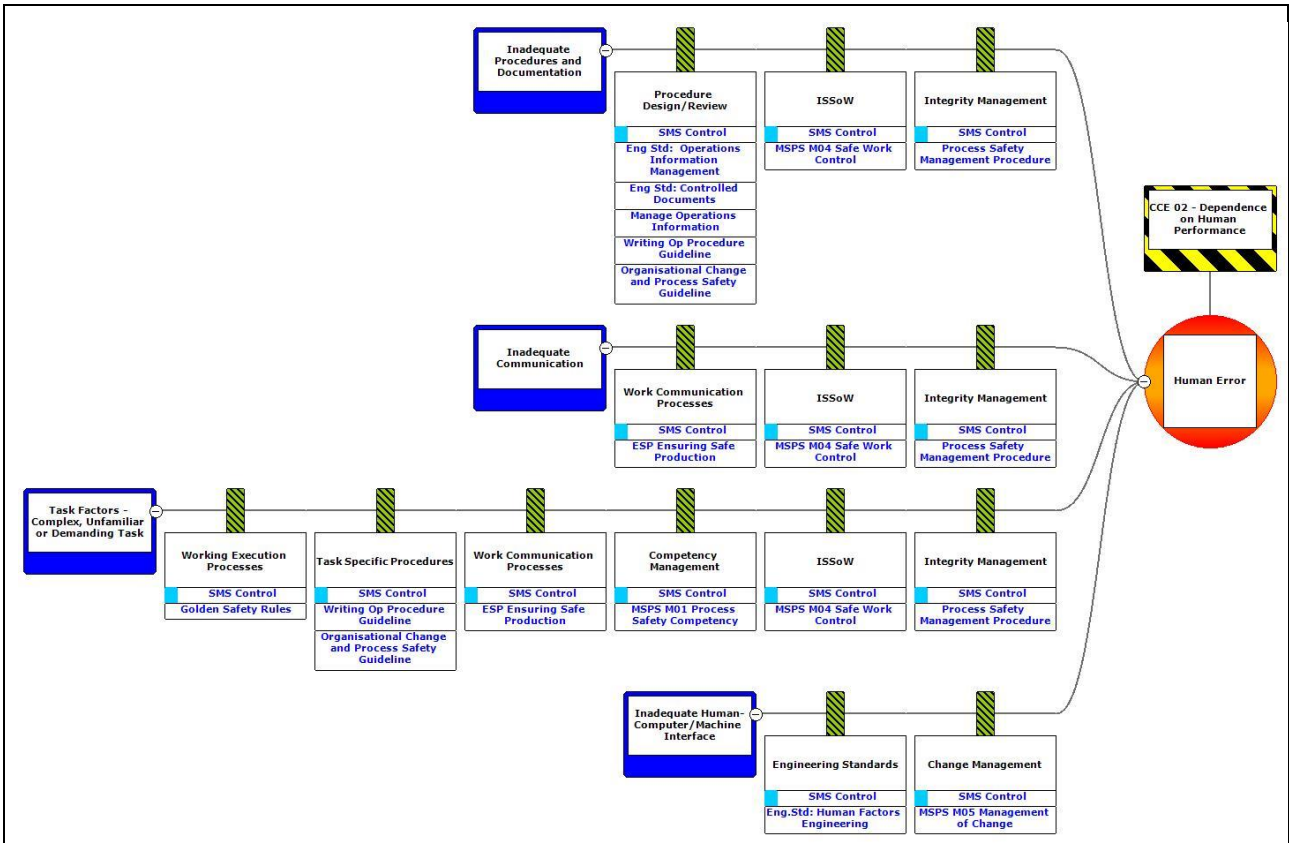


Figure 6-33: Generic bowtie – human error (causes 1 to 4)

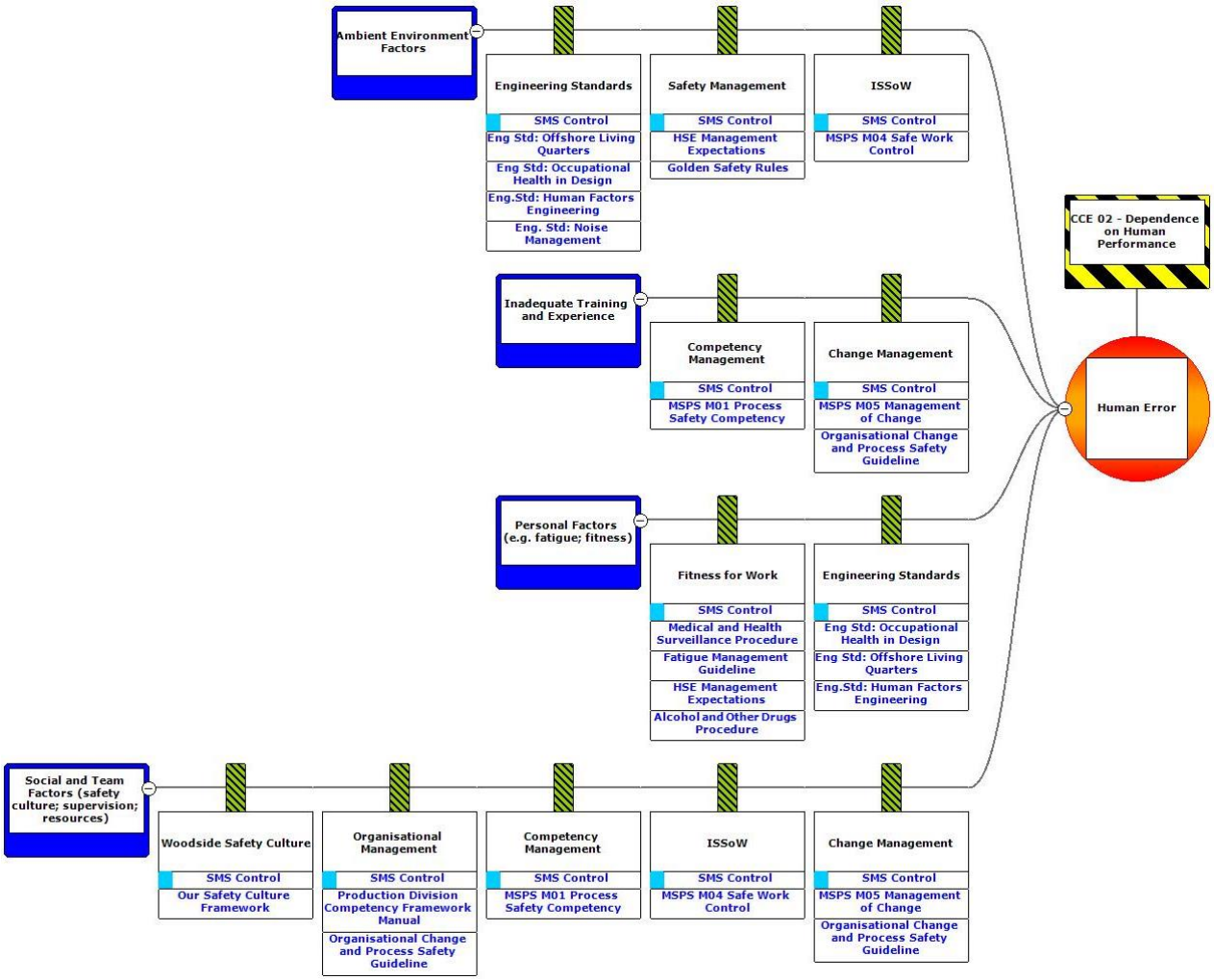


Figure 6-34: Generic bowtie – human error (causes 5 to 8)

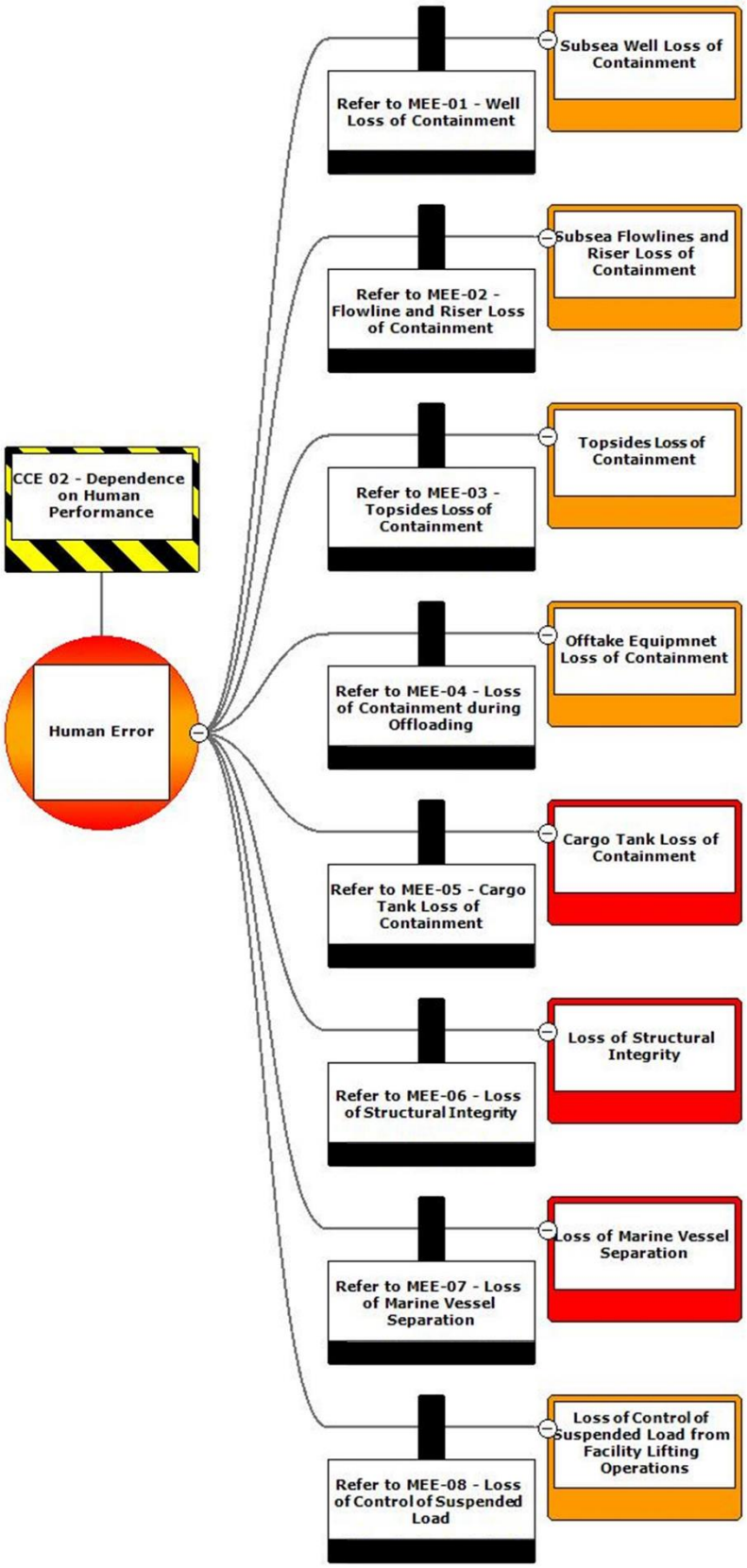


Figure 6-35: Generic bowtie – human error (outcomes)

6.7.14 Unplanned release: hydrocarbon release during bunkering/refuelling and chemical transfer, storage and use

Context		
Okha FPSO facility activities – Section 3.6 IMMR activities – Section 3.7 Vessels – 3.8	Physical environment – Section 4.4 Protected species – Section 4.6	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Unplanned release of hydrocarbons during bunkering/refuelling	X	X			X		A	D	2	M	LCS GP	Acceptable if ALARP	EPO 21
Unplanned release of chemicals during routine and non-routine IMMR activities	X	X			X		A	E	4	M			

Description of source of risk

Hydrocarbon release during diesel bunkering/refuelling

Diesel fuel is bunkered to the Okha FPSO facility. Two key scenarios for the loss of containment of diesel during bunkering operations were identified:

- Partial or total failure of a bulk transfer hose or fittings during bunkering, due to operational stress or other integrity issues, could spill diesel to the deck and into the marine environment. This would be <550 L, based on the likely volume of a bulk transfer hose (assuming a failure of the dry break and complete loss of hose volume).
- Partial or total failure of a bulk transfer hose or fittings during bunkering or refuelling, combined with a failure in procedure to shut off fuel pumps, for a period of up to five minutes, would result in around 11 m³ of diesel loss to the deck or into the marine environment.

Diesel is typically not transferred to support vessels or IMR vessels in the Operational Area; these vessels typically refuel in port (i.e. beyond the scope of this EP).

The primary diesel storage locations onboard the Okha FPSO facility are dedicated bunker tanks within its hull. Quantities of diesel stored topside are limited to day tanks (6 m³), with all additional stored diesel located below the main deck or within the hull of the facility (e.g. oil settling tanks, service and storage tanks and fuel tanks for equipment such as generators). Note, equipment containing diesel may be used on deck (i.e. generators). Credible spills of diesel during use are typically small (<50 L) compared to potential releases during bunkering. Mechanisms are available to capture diesel from process/piping associated with bunkering and fuel transfers, which can be routed to the drainage system, where the spill can be contained.

Refer to Section 6.7.2.1.for a description of the characteristics of diesel, including detail on the predicted fate and weathering of a spill to the marine environment. Note, the diesel scenario considered in Section 6.7.10. is significantly larger than the volumes considered here due to bunkering and topside storage volumes.

Chemical transfer, use and storage (during operations and IMMR activities)

Chemicals will be used during the Petroleum Activity while operating the Okha FPSO facility, subsea infrastructure and during IMMR activities. Chemicals are selected in accordance with the Woodside Chemical Selection and Assessment Environment Guideline. Spills of chemicals (including non-process hydrocarbons) can originate from equipment on the Okha FPSO facility, support vessel decks, subsea and during IMMR activities.

Operational process chemicals on the Okha FPSO facility are typically stored in dedicated vessels. The chemical stored in the largest volume on Okha is emulsion breaker, which is an operational process chemical stored in a bulk container (around 13 m³).

Operational non-process chemicals and maintenance chemicals on the Okha FPSO facility, support vessels and IMMR vessels are generally held in low quantities. Accidental releases of small quantities of subsea chemicals from topsides may occur (e.g. deck spills). Operational experience indicates potential volumes of such spills is small (<20 L). Unplanned losses of subsea chemicals may occur from the subsea infrastructure. Up to 400 L/day for five to 22 days is the worst-case unplanned subsea control fluid release rate experienced due to a control line failure subsea.

Releases from equipment or infrastructure may occur from the failure of hydraulic hoses or minor leaks from process components, or spills during refuelling of equipment, which can either be located inside or outside bunded/drained areas.

ROV hydraulic fluid is supplied through hoses containing around 20 L of fluid. Hydraulic lines to the ROV arms and other tooling may become caught, resulting in minor leaks to the marine environment. Small-volume hydraulic leaks may occur from equipment operating via hydraulic controls subsea (subsea control fluid). These include diamond wire cutters, bolt tensioning equipment and ROV tooling.

Consequence assessment

Environmental value(s) potentially impacted

Water quality

Given the low viscosity of marine diesel, along with the high portion of volatile components, a spill of less than 550 L of marine diesel during transfer, storage or use during operations would spread and weather rapidly. The potential impacts to water quality associated with a much larger diesel spill is presented in Section 6.7.10; a full impact assessment of hydrocarbons released to the marine environment is presented in Section 6.7.3.

Similarly, a subsea release of hydrocarbons while the Okha FPSO facility is disconnected for sail away to a shipyard is likely to be of a small volume and would rapidly disperse through the water column. Potential impacts associated with Cossack light crude released to the marine environment are presented in Section 6.7.3.

Unplanned discharges of non-process chemicals and hydrocarbons may decrease the water quality in the immediate vicinity of the release. Only small volumes are anticipated, resulting in very short-term impacts to water quality. Once released into the low-sensitivity receiving environment within the Operational Area, fluids are expected to mix rapidly and dilute in the water column. Any chemicals used during routine and non-routine operations and IMMR activities are selected based on the Woodside chemical selection procedure, to ensure any releases (planned or unplanned) to the marine environment are ALARP.

Marine fauna

Environmental receptors at risk from a diesel spill or unplanned chemical release would be restricted to those in the immediate vicinity and may include:

- marine fauna, particularly fauna associated with the sea surface (e.g. seabirds, air breathing vertebrates)
- plankton.

Depending on the chemical released, the toxicity and potential to bioaccumulate may result in localised impacts to pelagic fish or other marine species in the vicinity of the discharge. As surface discharges are rapidly dispersed and would be of very small volumes, potential impacts would be highly localised and temporary.

Potential impacts to plankton from an accidental chemical spill may include acute toxicity, resulting in mortality of planktonic organisms. Given the rapid turnover of plankton communities and nature and scale of the credible releases, these impacts would be short-lived (hours to days). Impacts to fish are expected to be of no lasting effect, as fish species are mobile and expected to avoid the area affected by an accidental chemical spill. Impacts to air-breathing fauna such as cetaceans, birds and marine turtles are expected to be restricted to irritation of sensitive membranes, such as the eyes, mouth and digestive system.

Demonstration of ALARP

Control considered	***Control feasibility (F) and cost/sacrifice (CS)54***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
Okha FPSO facility and support vessels comply with Marine Order 91	F: Yes. CS: Minimal cost. Standard practice.	Marine Order 91 is required under Australian regulations; implementation is	Control based on legislative	C 8.1

54 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)54***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
(Marine pollution prevention – oil)		standard practice for commercial vessels as applicable to vessel size, type and class. Compliance with Marine Order 91 reduces the risk of accidental hydrocarbon release during transfer.	requirement – must be adopted.	
Wells are managed in accordance with an accepted WOMP during periods where the Okha FPSO facility is disconnected for maintenance at a shipyard.	F: Yes. CS: Minimal cost. Standard practice.	The WOMP will ensure the appropriate controls are in place to manage wells during periods where the Okha FPSO facility is disconnected for maintenance at a shipyard.	Control based on legislative requirements – must be adopted.	C 21.1
Good practice				
Implement the Chemical Selection and Assessment Environment Guideline.	F: Yes. CS: Minimal. Woodside routinely implements this control.	Full assessment of all chemicals used for operations and IMMR activities provides the opportunity for Woodside to understand the potential environmental impacts of a possible chemical or hydrocarbon release before discharge and to assess potential impacts in the event of an unplanned discharge.	The Chemical Selection and Assessment Environment Guideline is routinely implemented at Woodside and the OCNS, which it is based on, is widely used and accepted throughout industry. The cost of implementation is outweighed by the potential environmental benefits.	C 6.1
Monitor subsea control fluid use, investigate material discrepancies, and use subsea control fluid with dye marker.	F: Yes. The use of subsea control fluid is monitored to maintain adequate fluid in the system. CS: Minimal cost.	Provides the opportunity to identify unplanned releases.	Benefit outweighs cost/sacrifice.	C 6.3
Ensure diesel bunkering hoses: • have dry-break couplings • are pressure-rated at purchase to reduce the risk of accidental hydrocarbon release during bunkering.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of a hose failure.	Benefit outweighs cost/sacrifice.	C 21.2
Implement bunkering procedures to reduce the risk of a	F: Yes.	Reduces the likelihood of a bunkering incident.	Benefit outweighs cost/sacrifice.	C 21.3

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)54***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
hydrocarbon release as a result of a bunkering incident.	CS: Minimal cost. Standard practice.			
Safely store chemicals and diesel to prevent release to the marine environment.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the risk of unplanned chemical/ diesel release.	Benefit outweighs cost/sacrifice.	C 21.4
Raise incident reports within the event reporting system for unplanned releases.	F: Yes. CS: Minimal cost. Standard practice.	Good practice that operators identify, report and learn from unplanned release events. Supports compliance with regulatory reporting requirements.	Control based on Woodside standard and regulatory requirements.	C 12.7
Professional judgement – eliminate				
None identified.				
Professional judgement – substitute				
None identified.				
Professional judgement – engineered solution				
Okha FPSO facility drainage system in place to contain and dispose of leaks and spills of hazardous liquids, to avoid harm to the environment.	F: Yes. The Okha FPSO facility was designed with an integral drains system that can be used to contain liquid spills in hazardous and non-hazardous areas. CS: Minimal. Inherent feature of the Okha FPSO facility's design.	The drains system can be used to contain a spill before it reaches the marine environment.	Benefit outweighs cost/sacrifice.	C 21.5

ALARP statement:

On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential risks associated with an unplanned release of hydrocarbon or chemical during routine and non-routine operations (including diesel bunkering). As no reasonably practicable additional controls were identified that would further reduce the impacts without disproportionate sacrifice, the risks are considered ALARP.

Demonstration of acceptability

Acceptability statement:

Accidental release of hydrocarbons or chemicals to the environment during routine and non-routine operations, including diesel bunkering, has been evaluated as having a 'High' risk rating. As per Section 2.4.2, Woodside considers 'High' risk ratings as acceptable if ALARP is demonstrated using good industry practice, consideration of company and societal values and risk based analysis, if legislative requirements are met and societal concerns are accounted for, and the alternative control measures are grossly disproportionate to the benefit gained.

Acceptability is demonstrated with regard to the considerations below.

Principles of ecologically sustainable development

As assessed for MEE-01 in Section 6.7.3.

Demonstration of acceptability
Internal context As assessed for MEE-01 in Section 6.7.3. **External context – societal values** As assessed for MEE-01 in Section 6.7.3 **Other requirements (includes laws, policies, standards and conventions)** As assessed for MEE-01 in Section 6.7.3.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 21 No release of hydrocarbons or chemicals to the marine environment.	C 8.1 Refer to Section 6.6.6.	PS 8.1 Refer to Section 6.6.6.	MC 8.1.1 Refer to Section 6.6.6.
	C 6.1 Refer to Section 6.6.4.	PS 6.1 Refer to Section 6.6.4.	MC 6.1.1 Refer to Section 6.6.4.
	C 6.3 Refer to Section 6.6.4.	PS 6.3 Refer to Section 6.6.4.	MC 6.3.1 Refer to Section 6.6.4.
	C 21.1 Ensure diesel bunkering hoses: • have dry-break couplings • are pressure-rated at purchase to reduce the risk of accidental hydrocarbon release during bunkering.	PS 22.1 All diesel transfer hoses have dry-break couplings and pressure-rating suitable for intended use.	MC 21.1.1 Inspection records demonstrate that diesel transfer hoses are fitted with dry-break couplings and are pressure-rated.
	C 21.2 Implement bunkering procedures to reduce the risk of a hydrocarbon release as a result of a bunkering incident.	PS 22.2.1 Bunkering procedure is implemented.	MC 21.2.1 Records demonstrate bunkering is undertaken in accordance with facility and contractor bunkering procedures.
		PS 21.2.2 Vessels have in place their own bunkering plans and checklists, depending on the specifications of both the supplying and receiving vessel.	MC 21.2.2 Marine verification records demonstrate vessel-specific bunkering plans are available and applied during bunkering operations.
	C 21.4 Safely store chemicals and diesel to prevent their release to the marine environment.	PS 21.4 Chemical/diesel storage areas for transportable containers on the Okha FPSO facility have adequate containment in place to contain an accidental chemical/diesel spill.	MC 21.4.1 Okha FPSO facility chemical/diesel storage areas for transportable containers are provided with adequate bunding/containment.
	C 12.7 Refer to Section 6.7.3.	PS 12.7 Refer to Section 6.7.3.	MC 12.7.1 Refer to Section 6.7.3.

6.7.15 Unplanned release: hazardous and non-hazardous solid waste management

Context		
Okha FPSO facility activities – Section 3.6 IMMR activities – Section 3.7 Vessels – Section 3.8	Physical environment – Section 4.4 Protected species – Section 4.6	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Incorrect disposal or accidental discharge of non-hazardous and hazardous waste to the marine environment.	X	X			X		A	E	2	M	LCS GP PJ	Broadly Acceptable	EPO 22

Description of source of risk

Loss of hazardous and non-hazardous solid waste

Routine and non-routine operations of the Okha FPSO facility, support vessels and IMMR vessels produce various hazardous and non-hazardous wastes. These materials could impact the marine environment if incorrectly disposed of or discharged in significant quantities.

Non-hazardous wastes include domestic and industrial materials such as aluminium cans, bottles, paper, cardboard, and scrap steel. Hazardous wastes comprise recovered solvents, excess or spent chemicals, oil-contaminated materials (e.g. sorbents, filters, rags), batteries, and potentially materials containing NORMs. Sediments may accumulate within hydrocarbon-containing infrastructure during operations. Monitoring for NORMs is conducted as needed, when accessing enclosed systems during maintenance activities (e.g. FPSO dry-dock), to ensure safe handling and disposal. All waste generated on the FPSO, including hazardous waste, is transported to shore for disposal or recycling by a licensed waste contractor, unless approved for discharge to the environment.

Equipment (small hand-held tools) and personal protective equipment (PPE) may also be accidentally lost overboard. Equipment that has been recorded as being lost on other similar facilities and vessels has primarily been windblown or dropped overboard and has included things such as hardhats, gloves, safety glasses and small tools or materials. Equipment (small hand-held tools) and PPE are not classified as waste as per the Woodside Offshore Facilities Waste Management Plan and are not included any further in this risk assessment. Equipment (small hand-held tools) and PPE lost overboard are recorded, investigated and corrective actions tracked as per requirements in Section 7.7.3 and Section 7.10.3. Loss of hazardous and non-hazardous wastes have occurred during backloading activities, periods of adverse weather and incorrect waste storage.

All waste materials not suitable for discharge to the environment, including hazardous wastes (i.e. liquid and solid wastes), generated during the Petroleum Activities Program are transported to shore for disposal or recycling by Woodside's licenced waste contractor.

Consequence assessment

Environmental value(s) potentially impacted

Water quality, sediment quality and species

The potential impacts of non-hazardous and hazardous wastes accidentally discharged to the marine environment include direct pollution and contamination of the marine environment, potentially resulting in slight, localised decrease in water or sediment quality. Secondary impacts due to potential contact with individual marine fauna include entanglement or ingestion, which may lead to injury or death of individual animals.

Based on the nature and scale of activities that may generate wastes, the location of the Operational Area, the types, size and frequency of wastes that could occur, and species present, the highest potential consequence for the temporary or permanent loss of hazardous or non-hazardous waste materials into the marine environment has been defined as slight and low-level, and the likelihood as Unlikely (2), resulting in an overall Moderate risk after implementing the identified controls.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)55***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
Contract vessels that comply with Marine Orders for safe vessel operations: • Marine Order 94 (Marine pollution prevention – packaged harmful substances) • Marine Order 95 (Marine pollution prevention – garbage).	F: Yes, CS: Minimal cost. Standard practice.	Reduces the likelihood of a harmful substance being released to the environment. Implementation is standard practice for commercial vessels as applicable to vessel size, type and class.	Controls based on legislative requirements – must be adopted.	C 22.1
Manage and handle NORMs in accordance with Australian Radiation Protection and Nuclear Safety Agency guidelines.	F: Yes. CS: Minimal cost. Standard practice.	Appropriate handling of NORMs mitigates the potential for them to enter the marine environment.	Controls based on legislative requirements – must be adopted.	C 22.2
Good practice				
Implement the Offshore Facilities Waste Management Plan.	F: Yes. CS: Minimal cost. Standard practice.	Reduces the likelihood of a release of waste to the environment by providing guidance on storage, handling and transport of wastes.	Benefit outweighs cost/sacrifice.	C 22.3
If safe and practicable to do so, use vessel, ROV or crane to attempt recovery of material environmentally hazardous or non-hazardous solid object/waste lost overboard.	F: Yes CS: Minimal cost. Standard practice.	Potentially reduces consequence by recovering object/waste container from the environment.	Benefit outweighs cost/sacrifice.	C 22.4
Raise incident reports within event reporting system raised for unplanned releases.	F: Yes. CS: Minimal cost. Standard practice.	Good practice that operators identify, report and learn from unplanned release events. Supports compliance with	Control based on Woodside standard and regulatory requirements.	C 12.7

55 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)55***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
		regulatory reporting requirements.		
Professional judgement – eliminate				
None identified.				
Professional judgement – substitute				
None identified.				
Professional judgement – engineered solution				
None identified.				
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential risks associated with an unplanned release of hazardous or non-hazardous solid waste. As no reasonably practicable additional controls were identified that would further reduce the impacts without disproportionate sacrifice, the risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact/risk assessment has determined that, given the adopted controls, an unplanned release of hazardous or non-hazardous solid waste could result in slight and low-level impact on environmental receptors. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts/risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 22 No release of hazardous or non-hazardous solid wastes[56] to the marine environment.	C 22.1 Contract vessels that comply with Marine Orders for safe vessel operations: • Marine Order 94 (Marine pollution prevention – packaged harmful substances) • Marine Order 95 (Marine pollution prevention – garbage).	PS 22.1 Vessels contracted use practices that comply with Marine Orders as applicable to vessel size, type and class.	MC 22.1.1 Marine verification records demonstrate compliance with requirements under Marine Orders 94 and 95.
	C 22.2 Manage and handle NORMs in accordance with Australian Radiation	PS 22.2 If waste materials are routinely identified as NORMs (above exempted levels), disposal is	MC 22.2.1 Waste management records demonstrate appropriate handling and

56 Waste is defined in the Woodside Offshore Facilities Waste Management Plan.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	Protection and Nuclear Safety Agency guidelines.	coordinated in line with the management of NORM guidelines and State waste management requirements for appropriate waste disposal.	disposal of NORM-classified material.
	C 22.3 Implement the Offshore Facilities Waste Management Plan.	PS 22.3 Implementation of the Offshore Facilities Waste Management Plan, including: • waste segregation and storage • records of all waste to be disposed, treated or recycled are maintained; records shall include (though are not limited to) quantity of waste, waste type and disposal/recycle location • waste streams are appropriately handled and managed according to their hazard and recyclability class • all non-putrescible waste (excludes all food, greywater or sewage waste) is transported and disposed of onshore.	MC 22.3.1 Inspection records demonstrate implementation of the Offshore Facilities Waste Management Plan .
	C 22.4 If safe and practicable to do so, use vessel, ROV or crane to attempt recovery of material environmentally hazardous or non-hazardous solid object/waste lost overboard.	PS 22.4 Material environmentally hazardous or non-hazardous solid waste dropped to the marine environment is recovered where safe and practicable to do so. Where ‘safe and practicable’ includes considerations of: • risk to personnel to retrieve object • whether the location of the object is in recoverable water depths • the object’s proximity to subsea infrastructure • ability to recover the object (i.e. nature of	MC 22.4.1 Records detail the recovery attempt consideration and status of material environmentally hazardous or non-hazardous solid waste lost to the marine environment.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
		object, lifting equipment or ROV availability, and suitable weather).	
	C 12.7 Refer to Section 6.7.3.	PS 12.7 Refer to Section 6.7.3.	MC 12.7.1 Refer to Section 6.7.3.

6.7.16 Physical presence: interactions with live infrastructure

Context		
Infrastructure layout – Section 3.5 IMMR activities – Section 3.7Support operations – Section 3.8	Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Interaction with live infrastructure from dropped objects						X	A	E	1	L	LCS GP	Broadly Acceptable	EPO 23

Description of source of risk

Interaction with live infrastructure from dropped objects

As detailed in Section 4.10.5, there is existing live subsea infrastructure within the Operational Area associated with the Angel facility and NRC. During the Petroleum Activity, there is the potential for objects to be dropped overboard from the IMMR vessels to the marine environment, near or this subsea infrastructure. Objects dropped during previous offshore activities include small numbers of personal protective gear (e.g. glasses, gloves, hard hats), small tools (e.g. spanners), hardware fixtures (e.g. riser hose clamp) and drill equipment (e.g. drill pipe). However, there is potential for larger equipment to be dropped during the IMMR activities (e.g. replacement infrastructure). The spatial extent in which dropped objects can occur is restricted to the Operational Area.

Consequence assessment

Environmental value(s) potentially impacted

In the unlikely event of an object being dropped on live infrastructure associated with the Angel facility or NRC, there is the potential for interaction with the infrastructure. In such event Woodside would notify the relevant operations team in accordance with a communications plan/protocol. This would trigger Woodside to assess and respond to any damage caused in accordance with the relevant accepted operations EP for that infrastructure.

For details of potential impacts, receptors and the extent of the environment that may be affected as a result of loss of containment from infrastructure within the Operational Area, associated with the Angel facility and NRC, refer to:

- Angel Facility Operations EP
- North Rankin Complex (NRC) Facility Operations EP.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)57***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
None identified.				
Good practice				
Implement lifting procedures.	F: Yes. CS: Minimal cost. Standard practice.	Ensures lifts are carried out with all measures in place to avoid a dropped object event, subsequently reducing the likelihood of a dropped object entering the marine environment.	Benefit outweighs cost/sacrifice.	C 23.1
Implement a communications plan/protocol.	F: Yes CS: Minimal cost. Standard practice.	Ensures activities are carried out in a way that minimises interference with the operation of the Angel and NRC infrastructure and establishes communication protocols to be followed in an interaction event.	Benefit outweighs cost/sacrifice.	C 23.2
Professional judgement – eliminate				
None identified.				
Professional judgement – substitute				
None identified.				
Professional judgement – engineered solution				
None identified.				
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential risks associated with an unplanned interaction with live infrastructure not associated with the Petroleum Activity. As no reasonably practicable additional controls were identified that would further reduce the impacts without disproportionate sacrifice, the risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The risk assessment has determined that, given the adopted controls, an unplanned interaction with live infrastructure not associated with the Petroleum Activity could result in slight and low-level impact on other oil and gas infrastructure. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

57 Qualitative measure.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 23 No interactions with live infrastructure as a result of the Petroleum Activity.	C 23.1 Lifting procedures applied by all vessels to minimise risk of dropped objects.	PS 23.1 All lifts are conducted in accordance with relevant lifting procedures.	MC 23.1.1 Records demonstrate lifts are done in accordance with relevant lifting procedures.
	C 23.2 Implement communications plan/protocol.	PS 23.2 Established communication protocols for the IMMR.	MC 23.2.1 Records demonstrate an established communication protocols for the IMMR.

6.7.17 Physical presence: interactions with marine fauna

Context		
Infrastructure layout – Section 3.5 Support operations – Section 3.8	Protected species – Section 4.6 Cultural values and heritage – Section 4.9	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	*Environmental values potentially impacted*						*Evaluation*						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Routine and non-routine operation of vessels (including IMMR vessels) and helicopters					X	X	A	E	1	L	LCS GP PJ	Broadly Acceptable	EPO 24 EPO 2

Description of source of risk

Routine and non-routine operation of vessels

The vessels operating in and around the Operational Area could interact with marine mammals and other protected marine fauna, such as whale sharks and marine reptiles. Vessel movements can result in collisions between the vessel (hull and propellers) and marine fauna, potentially resulting in superficial injury, serious injury that may affect life functions (e.g. movement and reproduction), and mortality. The potential frequency and severity of impacts due to collisions vary due to vessel type, vessel operation (specific activity, speed), physical environment (e.g. water depth), and the type of marine fauna potentially present and their behaviours.

Routine and non-routine operation of helicopters

Helicopters servicing the Okha FPSO facility during the Petroleum Activity could interact with seabirds. Potential for these interactions is limited by the short duration that helicopters are within the Operational Area.

Consequence assessment

Environmental value(s) potentially impacted

Species

Marine mammals, sharks and marine reptiles

Vessels travelling within the Operational Area could strike marine fauna, causing injury or death.

The likelihood of vessel/whale collision being lethal is influenced by vessel speed; the greater the speed at impact, the greater the risk of mortality (Jensen and Silber, 2004; Laist et al., 2001). Vanderlaan and Taggart (2007) found that the chance of lethal injury to a large whale as a result of a vessel strike increases from about 20% at 8.6 knots to 80% at 15 knots. According to the data of Vanderlaan and Taggart (2007), it is estimated the risk is less than 10% at a speed of four knots. Vessel/whale collisions at this speed are uncommon and, based on the US NOAA database (Jensen and Silber, 2004) there are only two known instances of collisions when the vessel was travelling at less than six knots. Both of these were from whale-watching vessels that were deliberately placed among whales.

Support vessels undertaking the Petroleum Activity within the Operational Area are likely to be travelling less than eight knots and will often be stationary. Therefore, the risk of a vessel collision with protected species resulting in death is inherently low. No known key aggregation areas (resting, breeding or feeding) are located within or immediately adjacent to the Operational Area.

The nearest recognised BIAs for cetaceans – considered to be at risk due to relatively slow movement and proportion of time spent at or near the sea surface – is the humpback whale migration BIA, located approximately 29 km south of the Operational Area. The pygmy blue whale migration BIA is located beyond the Operational Area (approximately

42 km northwest). Adverse interactions between vessels and humpback or pygmy blue whales are considered unlikely. Both humpback and pygmy blue whales are only expected to be present during their seasonal migrations.

Whale sharks are at risk from vessel strikes when feeding at the surface. Whale sharks may traverse offshore NWS waters, including the Operational Area, during their migrations to and from Ningaloo Reef, and a BIA for foraging whale sharks overlaps the Operational Area. However, given the main aggregation area for whale sharks is approximately 340 km off the coast of Ningaloo (designated as a foraging BIA with high density prey), it is expected that whale shark presence within the Operational Area would not comprise significant numbers, and their presence would be transitory and of a short duration. There are no constraints preventing whale sharks from moving away from vessels to avoid injury (e.g. shallow water or shorelines).

The Operational Area is unlikely to represent important habitat for marine turtles, given the absence of potential nesting or foraging habitat (i.e. no emergent islands, reef habitat or shallow shoals) and the water depth (approximately 80 to 125 m). The closest identified marine turtle BIA or critical habitat to the Operational Area is an internesting buffer for flatback turtles, located approximately 15 km from the Operational Area. The nearest potential turtle nesting habitats are the islands of the Dampier Archipelago (approximately 90 km south). As such, the presence of marine turtles within the Operational Area is likely to be restricted to individual turtles infrequently transiting the area. It is acknowledged that there are significant nesting sites along the mainland coast and islands of the region. As with cetaceans, the risk of collisions between turtles and vessels increases with vessel speed (Hazel et al., 2007). The typical response from turtles on the surface to the presence of vessels is to dive (a potential 'startle' response), which decreases the risk of collisions (Hazel et al., 2007). Given the low speeds of vessels undertaking the Petroleum Activity, along with the expected low numbers of turtles within the Operational Area, interactions between vessels and turtles are considered highly unlikely.

It is not deemed credible that vessel movement associated with the Petroleum Activity could have a significant impact on marine fauna populations, given:

- the low presence of transiting individuals
- avoidance behaviour commonly displayed by marine fauna
- the low operating speed of the activity support vessels; generally less than eight knots or stationary, unless operating in an emergency.

Activities are considered unlikely to result in a consequence greater than slight, short-term disruption to individuals or a small proportion of the population, and no impact on critical habitat or fauna activity.

Seabirds

While the presence of the Okha FPSO facility technically provides an opportunistic resting location for seabirds, no significant numbers of nesting individuals have been identified to date. There is potential for seabirds to be in flight while helicopters are landing or taking off from the FPSO; however, the noise of an approaching helicopter is expected to deter birds form the area. A wedge-tailed shearwaters breeding BIA overlaps the Operational Area, however, the presence of helicopters servicing the Okha FPSO facility is not anticipated to impact the breeding activity.

Cultural values and heritage

Through consultation and review of available literature (Section 4.9), Woodside understands marine fauna that may be affected by unplanned interactions, such as marine mammals and turtles, are culturally important to Traditional Custodians. Traditional Custodians value these species both tangibly and intangibly, as they can be considered a resource or linked to Songlines and dreaming stories. Traditional Custodians also have connection to many marine species through kinship and totemic systems; an individual may be obligated to care for a species to which they are kin. Traditional Custodians may also have a cultural obligation to care for the environmental values of Sea Country.

For example, activities that impact turtle populations and their marine environment may have an indirect impact on some First Nations communities if they deplete hunting areas and threaten local food security (Delisle et al,. 2018). Whale species are subjects of First Nations' increase ceremonies/rituals. As these thalu ceremonies are performed to maintain and increase populations of marine species, it is considered that management applies at the species/population level and not to individuals. For example, it is anticipated the thalu site on Murujuga, which "brings in whales to beach", will continue to serve its purpose so long as whales continue to migrate through Mermaid Sound.

Related intangible cultural values and heritage may include the transmission of cultural knowledge about whales and whale behaviour, including birthing areas, whale communication and migratory patterns. Such cultural knowledge may be associated with various cultural functions and activities that support the social and economic life of a community (Fijn, 2021). Inter-generational transmission of cultural knowledge (including songlines) relating to marine reptiles may be impacted where changes result in reduced sightings; for example, through population decline, changes to migration routes or changes to migration seasonality. This transfer of knowledge may be integral to managing a group's intangible cultural values and heritage (United Nations Educational, Scientific and Cultural Organisation, 2003).

As described, potential impacts to marine fauna are predicted to be at an individual level, which are not considered ecologically significant at a population level. Impacts are not expected to occur to ecologically significant proportions of the populations of the species, nor expected to decrease the quality of the habitat such that the extent of these

species is likely to decline. As such, cultural values and intangible cultural heritage associated with these species are expected to be maintained.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)58***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
Implement EPBC Regulations 2000 Part 8 Division 8.1 Interacting with Cetaceans.	F: Yes. CS: Minimal cost. Standard practice.	EPBC Regulations 2000 Part 8 Division 8.1 Interacting with Cetaceans includes requirements relating to the speeds vessels can travel at within particular distances of cetaceans. Reducing the speed vessels travel can also reduce the likelihood of an unplanned interaction.	Control based on legislative requirement – must be adopted.	C 5.1
Good practice				
Vessels will not travel faster than 6 knots within 250 m of a whale shark nor approach closer than 30 m of a whale shark.	F: Yes. CS: Minimal cost. Standard practice.	Implementing controls to reduce vessel speed around whale sharks can potentially reduce the likelihood of unplanned interaction.	Benefit outweighs cost/sacrifice.	C 5.2
Vessels will not travel greater than 6 knots within 300 m of a turtle (caution zone). If the turtle shows signs of being disturbed the vessel will immediately withdraw from the caution zone at a constant speed of less than 6 knots.	F: Yes. CS: Minimal cost. Standard practice.	Reducing the speed vessels travel within 300 m of a turtle can reduce the likelihood of an unplanned interaction.	Benefit outweighs cost/sacrifice.	C 5.3
Apply a 'living heritage' management approach. Woodside seeks advice and incorporates Traditional Custodian cultural knowledge across all its activities. Cultural safety considerations are factors for our workforce and the Traditional Custodian community.	F: Yes. CS: Minimal.	Implementing the 'living heritage' approach acknowledges and pays respect to Traditional Custodian communities. It supports the transfer of cultural knowledge and is an effective strategy to manage intangible cultural values. This is relevant to managing noise	Benefit outweighs cost/sacrifice.	C 2.1

58 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)58***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
		impacts on species with cultural value.		
Professional judgement – eliminate				
Do not use vessels.	F: No. No alternative to using vessels during the Petroleum Activity was identified. As vessels must be used to undertake the Petroleum Activity, there is no feasible means to eliminate the source of risk. CS: Not assessed, control not feasible.	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional judgement – substitute				
None identified.				
Professional judgement – engineered solution				
None identified.				
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential impacts/risks associated with unplanned interaction with marine fauna. As no reasonably practicable additional controls were identified that would further reduce the impacts without disproportionate sacrifice, the risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The impact/risk assessment has determined that, given the adopted controls, an unplanned interaction with marine fauna could result in slight, low-level impact to species and associated cultural values and heritage. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the impacts/risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 24 No interactions with marine fauna as a result of the Petroleum Activity.	C 5.1 Refer to Section 6.6.3.	PS 5.1 Refer to Section 6.6.3.	MC 5.1.1 Refer to Section 6.6.3.
	C 5.2 Refer to Section 6.6.3.	PS 5.2 Refer to Section 6.6.3.	MC 5.2.1 Refer to Section 6.6.3.
	C 5.3 Refer to Section 6.6.3.	PS 5.3 Refer to Section 6.6.3.	MC 5.3.1 Refer to Section 6.6.3.
EPO 2	C 2.1	PS 2.1.1	MC 2.1.1

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
Woodside will actively support Traditional Custodians' capacity for ongoing engagement and consultation on environment plans for the purpose of avoiding impacts to cultural values and heritage.	Refer to Section 6.6.1	Refer to Section 6.6.1	Refer to Section 6.6.1
		PS 2.2.1 Refer to Section 6.6.1	MC 2.2.1 Refer to Section 6.6.1

6.7.18 Physical presence: introduction of invasive marine species

Context		
Infrastructure layout – Section 3.5 Support operations – Section 3.8	Regional context – Section 4.1 Habitats and biological communities – Section 4.5 Socio-economic environment – Section 4.10	Stakeholder consultation – Section 5

Risk evaluation summary

Source of risk	***Environmental values potentially impacted***						***Evaluation***						
	Marine sediment	Water quality	Air quality (incl odour)	Ecosystems/habitat	Species	Socio-economic	Decision type	Consequence/impact	Likelihood	Risk rating	ALARP tools	Acceptability	Outcome
Invasive species in ballast tanks, on vessels, on the Okha FPSO facility or on submersible equipment				X	X	X	A	E	1	L	LCS GP PJ	Broadly Acceptable	EPO 25

Description of source of risk

Invasive species in vessel ballast tanks, on vessels or on submersible equipment

Vessels are potential vectors for introducing invasive marine species (IMS) to the Operational Area during the Petroleum Activity. These include:

- Support vessels: typically sourced from Australian waters and generally considered to be low risk, these vessels are the most common vessels in the Operational Area.
- Offtake tankers: typically, from international waters and generally considered to be low risk, these tankers visit the Okha FPSO facility as required. This is currently once every six weeks, but this is expected to change as production rates change over time. Full offtake operations are expected to take up to 30 hours.
- IMMR vessels: may be sourced from Australia or overseas, depending on requirements and vessel availability. IMMR vessels will be in the Operational Area as required for routine and non-routine IMMR activities. This risk assessment is based on there being approximately one vessel for around one week per year of operations; however, this frequency is subject to change depending on IMMR requirements.

The Okha FPSO facility may leave the Operational Area to avoid dangerous weather or undergo modifications and repairs at an international shipyard. This may include spending short periods of time in areas that are considered high risk for the presence of potential IMS, such as ports beyond Australian waters.

IMS may be introduced to the Operational Area from vessels and the Okha FPSO facility through:

- ballast water discharge
- release of IMS propagules/fragments from biofouling.

Potential IMS can be drawn into ballast tanks when ballast water is taken on to balance vessels under load or while cargo is unloaded. Offtake tankers use ballast water to maintain vessel stability. This ballast is discharged when loading crude oil from the Okha FPSO facility during offtake operations.

The Okha FPSO facility may require ballast water to operate safely when detached from the RTM. Ballast water taken on within the Operational Area (i.e. before detachment) is considered unlikely to host IMS due to the offshore location and deep water (around 80 m to 125 m water depth). When returning from beyond Australian waters, the Okha FPSO facility routinely exchanges ballast water to achieve low-risk ballast water. Ballast water exchanges are not typically required by support or IMMR vessels.

All vessels, including the Okha FPSO facility, are inherently subject to some level of marine fouling. Organisms attach to the vessel hull, particularly in areas where they can find a good surface (e.g. seams, strainers and unpainted surfaces) or where turbulence is lowest (e.g. niches, sea chests). Biofouling organisms can become established in an

area by releasing propagules (e.g. eggs, larvae), or by attaching to substrate after becoming detached from the host vessel.

Non-indigenous marine species (NIMS) are organisms that have been introduced into a region outside their natural biogeographic range and can survive, reproduce and establish founder populations. Not all NIMS introduced into an area will thrive or cause demonstrable impacts. Most NIMS around the world are relatively benign; few have spread widely beyond sheltered ports and harbours. Only a subset of NIMS that become abundant and impact on social/cultural, human health, economic or environmental values can be considered IMS.

Consequence assessment

Environmental value(s) potentially impacted

Overview

IMS have historically been introduced and translocated around Australia by a variety of human means, including biofouling and ballast water. Species of concern are those that:

- are not native to the region
- are likely to survive and establish in the region
- can spread by human mediated or natural means.

Species of concern vary from one region to another, depending on various environmental factors such as water temperature, salinity, nutrient levels and habitat type. These factors dictate their survival and invasive capabilities.

Introducing IMS into the local marine environment may alter the ecosystem, as IMS have characteristics that make them superior (in a survival and/or reproductive sense) to indigenous species. They may prey upon local species (which had previously not been subject to this kind of predation and therefore have not evolved protective measures against the attack), they may outcompete indigenous species for food, space or light, and can also interbreed with local species to create hybrids such that the endemic species is lost.

IMS have also proven economically damaging to areas where they have been introduced and established. Such impacts include direct damage to assets (fouling of vessel hulls and infrastructure) and depletion of commercially harvested marine life (e.g. shellfish stocks). IMS have proven particularly difficult to eradicate from areas, once established. If the introduction is captured early, eradication may be effective but is likely to be expensive, disruptive and, depending on the method of eradication, harmful to other local marine life.

Despite the potential high consequence of a marine pest establishing within a high-value environment as a result of introduction, unlike coastal or sheltered nearshore waters, the deep offshore open waters of the Operational Area are not conducive to IMS settling and establishing (Geiling, 2016), due to the lack of light or suitable habitat to sustain growth or survival. Table 6-26 provides an assessment of the IMS risks associated with the Petroleum Activity.

The next sections provide more details about how the risks of IMS may impact on specific receptors.

Epifauna and infauna

Epifauna and infauna are susceptible to impacts from IMS due to the risk of changes to the ecosystem dynamics, such as competition for resources and predation.

Discrete areas of hard substrate hosting sessile filter-feeding communities such as sponges and gorgonians may be present within the small portion of the Operational Area that overlaps the Ancient Coastline at the 125 m Depth Contour KEF. However, it is unlikely IMS could transfer to these areas, as any areas of hard substrate are likely to be located away from permanent subsea infrastructure and are unlikely to be directly contacted by the Petroleum Activity. Any part of the Operational Area that could have hard substrate associated with this KEF is likely to be in the part dedicated to vessel movements (i.e. further than tens of metres from the permanent infrastructure).

Other substrates within the Operational Area are sandy sediments in water depths too deep for IMS to establish.

Industry, shipping, defence

The establishment of IMS could cause changes to the functions, interests or activities of other users through indirect impact, such as changes to species targeted by fisheries and thus resulting in economic and social implications, or due to compromised reputation to the oil and gas industry.

Given the low likelihood of IMS translocation to and colonisation of environments within the Operational Area, project activities will not result in establishment of IMS, and as such not adversely affect other marine user activities in the region. Based on the impact evaluation, the magnitude of potential impacts of a change to the functions, interests or activities of other users is slight (see Table 6-26). Receptor sensitivity for industry, shipping and defence is medium, leading to a Slight (E) risk consequence. The likelihood of the risk event occurring is Remote, therefore the risk is assessed as Low.

Summary of potential impacts to environmental values

In support of Woodside's assessment of the impacts and risks of IMS introduction associated with the Petroleum Activity, a risk assessment and evaluation of the different aspects of marine pest translocation associated with the activity was conducted. The results of this are shown in Table 6-26.

Table 6-26: Assessment of the impacts and risks associated with the Petroleum Activity from introducing invasive marine species

IMS introduction aspect	*Credibility of introduction*	*Consequence of introduction*	*Likelihood*
Transfer of IMS from the infected vessel to the Operational Area and establishment on the seafloor or subsea infrastructure.	**Not Credible** The deep offshore open waters of the Operational Area away from shorelines and/or critical habitat, more than 12 nm from a shore and in waters 80 to 125 m deep, are not conducive to the settlement and establishment of IMS.	Not relevant, not credible.	Not relevant, not credible.
Transfer of IMS from the infected vessel to and subsequent establishment on the Okha FPSO facility.	**Credible** There is potential for the transfer of marine pests to occur.	If IMS were to establish, this could result in fouling of intakes (depending on the pest introduced), and would likely result in the quarantine of the Okha FPSO facility until eradication could occur (through cleaning and treatment of infected areas), which would be costly to undertake. **Minor (D) – reputation and brand** Such introduction would be expected to have Minor (D) impact to Woodside's reputation and brand, and close scrutiny of asset level operations or future proposals. **Slight (E) – environment** Environmental consequence of introduction of IMS to the Okha FPSO facility is considered Slight (E), localised and would relate to habitat directly on the Okha FPSO facility.	**Highly Unlikely (1)** Interactions between the Okha FPSO facility and support vessels will be limited during the Petroleum Activity, with a 500 m PSZ being adhered to. Offtake tankers are considered to present a low IMS risk, do not directly contact the Okha FPSO facility and are within the Operational Area for short periods of time (typically <36 hours). Spread of marine pests via ballast water or spawning in these open ocean environments is considered Highly Unlikely (1).
Transfer of IMS when the Okha FPSO facility is disconnected and returns to the Operational Area from the shipyard.	**Credible** There is potential for the transfer of marine pests to occur.	If IMS were to return on the FPSO and establish, this would potentially result in fouling of intakes (depending on the pest introduced), and likely result in the quarantine of the Okha FPSO facility until eradication could occur (through cleaning and treatment of infected areas). This would be costly to undertake.	**Highly Unlikely (1)** Interactions between the Okha FPSO facility and support vessels will be limited during the Petroleum Activity, with a 500 m PSZ being adhered to. In addition, when the Okha FPSO facility returns from Singapore, controls will be implemented (refer to ALARP discussion below) to limit the

		Minor (D) – reputation and brand Such introduction would be expected to have Minor (D) impact to Woodside's reputation and brand. **Slight (E) – environment** Environmental consequence of introduction of IMS to the Okha FPSO facility is considered Slight (E), localised, and would relate to habitat directly on the Okha FPSO facility.	likelihood of IMS translocation. Spread of marine pests via ballast water or spawning in these open-ocean environments is considered Highly Unlikely (1).
Transfer of IMS from the infected vessel to a subsequent establishment on the Okha FPSO facility, then transfer of IMS to a secondary vessel from the Okha FPSO facility.	**Not Credible** Risk is considered so remote that it is not credible for the purposes of the Petroleum Activity. The transfer of a marine pest from an infected activity vessel to the Okha FPSO facility was already considered highly unlikely, given the offshore open-ocean environment. For a marine pest to then establish into a mature spawning population on the Okha FPSO facility and then transfer to another support vessel is not considered credible (i.e. beyond the Woodside risk matrix). The Okha FPSO facility is in an offshore, open-ocean, deep environment. Support vessels only spend short periods of time alongside the Okha FPSO facility (i.e. during backloading or bunkering activities). There is also no direct contact (i.e. they are not tied up alongside) during these activities.	Not relevant, not credible.	Not relevant, not credible.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)59***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Legislation, codes and standards				
On arrival in Australia, all vessels will manage their ballast water using one of the approved ballast water management options, as specified in the Australian Ballast Water Management Requirements.	F: Yes. CS: Minimal cost. Standard practice.	Reduction in the likelihood that ballast water will host IMS.	Controls based on legislative requirements under the *Biosecurity Act 2015* – must be adopted.	C 25.1
Internationally sourced vessels will manage their biosecurity risk associated with biofouling as specified in the Australian Biofouling Management Requirements.	F: Yes. CS: Minimal cost. Standard practice.	Reduction in the likelihood that vessels will host IMS.	Controls based on legislative requirements under the *Biosecurity Act 2015* – must be adopted.	C 25.2
Good practice				
Woodside's IMS risk assessment process will be applied to vessels and immersible equipment. Assessment will consider the following risk factors: For vessels: • vessel type • recent IMS inspection and cleaning history, including for internal niches • out-of-water period before mobilising • age and suitability of antifouling coating at mobilisation date • internal treatment systems and history • origin and proposed area of operation • number of stationary/slow speed periods greater than seven days	F: Yes. CS: Minimal cost. Good practice implemented across all Woodside operations.	Reduction in the likelihood that a vessel will host IMS.	Benefit outweighs cost/sacrifice.	C 25.3

59 Qualitative measure.

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)59***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
• region of stationary or slow periods • type of activity – contact with seafloor. For immersible equipment: • region of deployment since last thorough clean, particularly coastal locations • duration of deployments • duration of time out of water since last deployment • transport conditions during mobilisation • post-retrieval maintenance regime. Based on the outcomes of each IMS risk assessment, management measures commensurate with the risk (such as the treatment of internal systems, IMS inspection or cleaning) will be implemented to minimise the likelihood of IMS being introduced.				
Monitor the Okha FPSO facility for IMS.	F: Yes. CS: High. IMS inspection of in-water assets typically requires diver-based inspections to reliably detect IMS. This is a costly, time-consuming process that introduces a significant safety risk.	Control allows IMS to be detected, which could result in faster mitigation against potential spread. However, the likelihood of establishment in the Operational Area is so low, considering the depth of water and implementation of the Woodside IMS risk assessment process, that an actual benefit to the environment is limited.	Cost/sacrifice outweigh benefit.	No
Inspect all vessels for IMS.	F: Yes. Approach to inspect vessels is feasible.	Reduction in the likelihood that a vessel will host IMS.	Disproportionate. The cost/sacrifice is grossly disproportionate to the benefit gained.	No

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)59***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
	CS: Significant cost and schedule impacts. Thorough inspections require vessels to be removed from the sea (e.g. slipped or dry docked) and examined by an IMS expert. This process incurs significant financial and schedule sacrifices.		Interactions between FPSO and support/ subsea vessels will be limited, and the vessels involved will have been managed by implementing Woodside's IMS Management Plan.	
Inspection of Okha FPSO facility by IMS inspector before return from international sail-away.	F: Yes. Approach to inspect vessels is feasible. CS: Significant cost and schedule impacts. Thorough inspections require vessels to be removed from the sea (e.g. slipped or dry docked) and examined by an IMS inspector. This process incurs significant financial and schedule sacrifices.	Reduction in the likelihood that the FPSO would host IMS on return to Operational Area from international sail-away.	Although inspecting all vessels associated with Okha FPSO facility operations is considered disproportionate (see the rejected control above), if Woodside's IMS Management Plan is implemented, inspection of only the Okha FPSO facility by an IMS inspector is considered appropriate, given the added level of confidence it provides.	C 25.4
Professional judgement – eliminate				
Do not use vessels.	F: No. No alternative to using vessels during the Petroleum Activity was identified. As vessels must be used to undertake the Petroleum Activity, there is no feasible means to eliminate the source of risk. CS: Not assessed, control not feasible.	Not assessed, control not feasible.	Not assessed, control not feasible.	No
Professional judgement – substitute				
Source vessels based in Australia only.	F: Yes. Support vessels are routinely sourced from Australia. However, depending on the nature of subsea IMMR activities, there may not be a suitable vessel within Australian waters. CS: Potential for significant cost and schedule impacts.	Reduction in the likelihood that a vessel will host IMS.	Disproportionate. The cost/sacrifice is grossly disproportionate to the benefit gained.	No

Demonstration of ALARP				
Control considered	***Control feasibility (F) and cost/sacrifice (CS)59***	***Benefit in impact/risk reduction***	***Proportionality***	***Control adopted***
Professional judgement – engineered solution				
None identified.				
ALARP statement: On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating ALARP (Section 2.4.1), Woodside considers the adopted controls appropriate to manage potential risks associated with the introduction of IMS. As no reasonably practicable additional controls were identified that would further reduce the impacts without disproportionate sacrifice, the impacts/risks are considered ALARP.				

Demonstration of acceptability
Acceptability statement: The risk assessment has determined that, given the adopted controls, unplanned introduction of IMS could result in slight, low-level impact to the marine environment. On the basis of the assessment outcomes, use of the relevant tools appropriate to the decision type (i.e. Decision Type A; Section 2.2.4.2) and Woodside's criteria for demonstrating acceptability (Section 2.4.2), Woodside considers the adopted controls appropriate to manage the risks to a level that is broadly acceptable, and compliance with those controls demonstrates the EPOs are met.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
EPO 25 No introduction and establishment of invasive marine species into the Operational Area as a result of the Petroleum Activity.	C 25.1 On arrival in Australia, all vessels will manage their ballast water using one of the approved ballast water management options, as specified in the Australian Ballast Water Management Requirements.	PS 25.1 Compliance with Australian Ballast Water Management Requirements (as defined under the *Biosecurity Act 2015*, aligned with the International Convention for the Control and Management of Ships' Ballast Water and Sediments) to prevent the introduction of IMS.	MC 25.1.1 Ballast water exchange records maintained by vessels to verify compliance against the ballast water management requirements.
	C 25.2 Internationally sourced vessels will manage their biosecurity risk associated with biofouling as specified in the Australian Biofouling Management Requirements.	PS 25.2 Compliance with Australian Ballast Water Management Requirements (as defined under the *Biosecurity Act 2015*).	MC 25.2.1 Records of IMS risk assessments maintained for all vessels and relevant immersible equipment.
	C 25.3 Woodside's IMS risk assessment process will be applied to vessels and immersible equipment.	PS 25.3.1 Before entering the Operational Area, vessels and relevant immersible equipment are determined	MC 25.3.1 Records of IMS risk assessments are maintained for all vessels and relevant immersible equipment.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	Assessment will consider the following risk factors: For vessels: • vessel type • recent IMS inspection and cleaning history, including for internal niches • out-of-water period before mobilising • age and suitability of antifouling coating at mobilisation date • internal treatment systems and history • origin and proposed area of operation • number of stationary/ slow speed periods greater than seven days • region of stationary or slow periods • type of activity – contact with seafloor. For immersible equipment: • region of deployment since last thorough clean, particularly coastal locations • duration of deployments • duration of time out of water since last deployment • transport conditions during mobilisation • post-retrieval maintenance regime. Based on the outcomes of each IMS risk assessment, management measures commensurate with the risk (such as the treatment of internal systems, IMS inspection or cleaning) will be implemented to minimise the likelihood of introducing IMS.	to be low risk60 of introducing IMS of concern. PS 25.3.2 IMS risk assessments undertaken by an authorised environment advisor who has completed relevant Woodside IMS training or by a qualified IMS inspector.	MC 25.3.2 Records of environment adviser training or IMS inspector qualifications (as relevant).
	C 25.4	PS 25.4	MC 25.4.1

60 Low risk of introducing IMS of concern is defined as either 'no additional management measures required' or 'management measures have been applied to reduce the risk'.

EPOs, EPSs and MC			
EPO	***Controls***	***PS***	***MC***
	Okha FPSO facility will be inspected by an IMS inspector before return from international sail-away.	IMS assessments undertaken by an authorised IMS inspector.	Records of IMS inspector assessment.

6.8 Recovery plan and threat abatement assessment

This section describes the assessment Woodside has undertaken to demonstrate that the Petroleum Activity is not inconsistent with any relevant recovery plans or threat abatement plans. For the purposes of this assessment, the relevant Part 13 statutory instruments (recovery plans and threat abatement plans) are:

- Recovery Plan for Marine Turtles in Australia 2017–2027 (Commonwealth of Australia, 2017)
- Conservation Management Plan for the Blue Whale 2015–2025 (Commonwealth of Australia, 2015a)
- Recovery Plan for the Grey Nurse Shark (*Carcharias taurus*) 2014 (Commonwealth of Australia, 2014)
- Sawfishes and River Sharks Multispecies Recovery Plan (Commonwealth of Australia, 2015b)
- Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans 2018 (Commonwealth of Australia, 2018)
- National Recovery Plan for the Southern Right Whale (DCCEEW, 2024a).

Table 6-27 lists the objectives and (where relevant) the action areas of these plans, and describes whether these objectives/action areas apply to government, the titleholder or the Petroleum Activity. For those objectives/action areas applicable to the Petroleum Activity, the relevant actions of each plan have been identified, and an evaluation has been conducted as to whether impacts and risks resulting from the activity are clearly inconsistent with that action or not. The results of this assessment against relevant actions are presented in Table 6-28 to Table 6-33.

Table 6-27: Identification of applicability of recovery plan and threat abatement plan objectives and action areas

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	***Titleholder***	***Petroleum Activity***
Recovery Plan for Marine Turtles in Australia			
Long-term recovery objective: Minimise anthropogenic threats to allow for the conservation status of marine turtles to improve so they can be removed from the EPBC Act threatened species list	Y	Y	Y
Interim recovery objectives			
Current levels of legal and management protection for marine turtle species are maintained or improved, both domestically and throughout the migratory range of Australia's marine turtles	Y		
The management of marine turtles is supported	Y		
Anthropogenic threats are demonstrably minimised	Y	Y	Y
Trends in nesting numbers at index beaches and population demographics at important foraging grounds are described	Y	Y	
Action areas			
A. Assessing and addressing threats			
A1. Maintain and improve efficacy of legal and management protection	Y		
A2. Adaptatively manage turtle stocks to reduce risk and build resilience to climate change and variability Continue to meet Australia's international commitments to address the causes of climate change	Y	Y	Y
A3. Reduce the impacts of marine debris	Y	Y	Y
A4. Minimise chemical and terrestrial discharge	Y	Y	Y
A5. Address international take within and outside Australia's jurisdiction	Y		
A6. Reduce impacts from terrestrial predation	Y		
A7. Reduce international and domestic fisheries bycatch	Y		
A8. Minimise light pollution	Y	Y	Y
A9. Address the impacts of coastal development/infrastructure and dredging and trawling	Y	Y	
A10. Maintain and improve sustainable Indigenous management of marine turtles	Y		

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	***Titleholder***	***Petroleum Activity***
B. Enabling and measuring recovery			
B1. Determine trends in index beaches	Y	Y	
B2. Understand population demographics at key foraging grounds	Y		
B3. Address information gaps to better facilitate the recovery of marine turtle stocks	Y	Y	Y
Blue Whale Conservation Management Plan			
Long-term recovery objective: Minimise anthropogenic threats to allow for their conservation status to improve so they can be removed from the EPBC Act threatened species list	Y	Y	Y
Interim recovery objectives			
The conservation status of blue whale populations is assessed using efficient and robust methodology	Y		
The spatial and temporal distribution, identification of biologically important areas, and population structure of blue whales in Australian waters is described	Y	Y	Y
Current levels of legal and management protection for blue whales are maintained or improved and an appropriate adaptive management regime is in place	Y		
Anthropogenic threats are demonstrably minimised	Y	Y	Y
Action areas			
A. Assessing and addressing threats			
A.1: Maintain and improve existing legal and management protection	Y		
A.2: Assess and address anthropogenic noise	Y	Y	Y
A.3: Understand impacts of climate variability and change	Y	Y	Y
A.4: Minimise vessel collisions	Y	Y	Y
B. Enabling and measuring recovery			
B.1: Measure and monitor population recovery	Y		
B.2: Investigate population structure	Y		
B.3: Describe spatial and temporal distribution and define biologically important habitat	Y	Y	Y

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	***Titleholder***	***Petroleum Activity***
Southern Right Whale Recovery Plan			
Overarching objective: To assist the recovery of the grey nurse shark in the wild, throughout its range in Australian waters, with a view to: • improving the population status, leading to future removal of the grey nurse shark from the threatened species list of the EPBC Act • ensuring anthropogenic activities do not hinder the recovery of the grey nurse shark in the near future, or impact on the conservation status of the species in the future	Y	Y	Y
Specific objectives			
Develop and apply quantitative monitoring of the population status (distribution and abundance) and potential recovery of the grey nurse shark in Australian waters	Y		
Quantify and reduce the impact of commercial fishing on the grey nurse shark through incidental (accidental and/or illegal) take, throughout its range	Y		
Quantify and reduce the impact of recreational fishing on the grey nurse shark through incidental (accidental and/or illegal) take, throughout its range	Y		
Where practicable, minimise the impact of shark control activities on the grey nurse shark	Y		
Investigate and manage the impact of ecotourism on the grey nurse shark	Y		
Manage the impact of aquarium collection on the grey nurse shark	Y		
Improve understanding of the threat of pollution and disease to the grey nurse shark	Y	Y	Y
Continue to identify and protect habitat critical to the survival of the grey nurse shark and reduce the impact of threatening processes within these areas	Y	Y	
Continue to develop and implement research programs to support the conservation of the grey nurse shark	Y	Y	
Promote community education and awareness in relation to grey nurse shark conservation and management	Y		
Sawfish and River Sharks Recovery Plan			

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	***Titleholder***	***Petroleum Activity***
Primary objective: To assist the recovery of sawfish and river sharks in Australian waters with a view to: • improving the population status leading to the removal of the sawfish and river shark species from the threatened species list of the EPBC Act • ensuring anthropogenic activities do not hinder recovery in the near future, or impact on the conservation status of the species in the future	Y	Y	Y
Specific objectives			
Reduce and, where possible, eliminate adverse impacts of commercial fishing on sawfish and river shark species	Y		
Reduce and, where possible, eliminate adverse impacts of recreational fishing on sawfish and river shark species	Y		
Reduce and, where possible, eliminate adverse impacts of Indigenous fishing on sawfish and river shark species	Y		
Reduce and, where possible, eliminate the impact of illegal, unregulated and unreported fishing on sawfish and river shark species	Y		
Reduce and, where possible, eliminate adverse impacts of habitat degradation and modification on sawfish and river shark species	Y	Y	Y
Reduce and, where possible, eliminate any adverse impacts of marine debris on sawfish and river shark species, noting the linkages with the 'Threat Abatement Plan for the impact of marine debris on vertebrate marine life'	Y	Y	Y
Reduce and, where possible, eliminate any adverse impacts of collection for public aquaria on sawfish and river shark species	Y		
Improve the information base to allow the development of a quantitative framework to assess the recovery of, and inform management options for, sawfish and river shark species	Y		
Develop research programs to assist conservation of sawfish and river shark species	Y	Y	
Improve community understanding and awareness in relation to sawfish and river shark conservation and management	Y		
Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans			
Objectives			
Contribute to long-term prevention of the incidence of marine debris	Y	Y	
Understand the scale of impacts from marine plastic and microplastic on key species, ecological communities and locations	Y	Y	Y
Remove existing marine debris	Y		

EPBC Act Part 13 statutory instrument	Applicable to:		
	Government	***Titleholder***	***Petroleum Activity***
Monitor the quantities, origins, types and hazardous chemical contaminants of marine debris, and assess the effectiveness of management arrangements for reducing marine debris	Y		
Increase public understanding of the causes and impacts of harmful marine debris, including microplastic and hazardous chemical contaminants, to bring about behaviour change	Y		

Table 6-28: Assessment against relevant actions of the Recovery Plan for Marine Turtles in Australia

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
Recovery Plan for Marine Turtles in Australia	Action Area A3: Reduce the impacts from marine debris.	Action: Support the implementation of the 'Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans'. Priority actions at stock level: • Green turtles, NWS (G-NWS) – Understand the threat posed to this stock by marine debris. • Loggerhead turtles, Western Australia (LH-WA) – Determine the extent to which marine debris is impacting loggerhead turtles. • Flatback turtles, Pilbara (F-Pil) – No relevant actions.	Refer to Section 6.7.15. Not inconsistent assessment: The assessment of the accidental release of solid hazardous and non-hazardous wastes has considered the potential risks to marine turtles. Controls have been implemented to reduce the likelihood of accidental release of solid wastes for the duration of the Petroleum Activity.	EPO 22 C 22.1, 22.2, 22.3, 22.4 PS 22.1, 22.2, 22.3, 22.4
	Action Area A4: Minimise chemical and terrestrial discharge.	Action: Ensure spill risk strategies and response programs adequately include management for marine turtles and their habitats, particularly in reference to 'slow to recover habitats', such as nesting habitat, seagrass meadows or coral reefs. Priority actions at stock level: • G-NWS – Ensure spill risk strategies and response programs include management for turtles and their habitats.	Refer to Sections 6.6 and 6.7. Not inconsistent assessment: The assessment of accidental release of chemicals/ hydrocarbons has considered the potential risks to marine turtles. Spill risk strategies and the response program include management measures for turtles and their nesting habitats.	Refer to Sections 6.6 and 6.7 Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
		• LH-WA and F-Pil – Ensure spill risk strategies and response programs include management for turtles and their habitats, particularly in reference to slow to recover habitats, such as seagrass meadows or corals.		Petroleum Activity are presented in Appendix G
	Action Area A8: Minimise light pollution.	Action: Artificial light within or adjacent to habitat critical to the survival of marine turtles will be managed such that marine turtles are not displaced from these habitats. Priority actions at stock level: • G-NWS – As above. • LH-WA – No relevant actions. • F-Pil – Manage artificial light from onshore and offshore sources to ensure biologically important behaviours of nesting adults and emerging/ dispersing hatchlings can continue.	Refer to Section 6.6.8. Not inconsistent assessment: The assessment of light emissions has considered the potential impacts to marine turtles. Internesting, mating, foraging or migrating turtles are not impacted by light from the Petroleum Activity. Based on the frequency and nature of IMMR activities, the impacts to adult turtles moving through the Operational Area from lighting are expected to be localised and temporary with no lasting effect.	EPO 11 C 11.2, 11.3 PS 11.2, 11.3
	Action Area B1: Determine trends at index beaches.	Action: Maintain or establish long-term monitoring programs at index beaches to collect standardised data critical for determining stock trends, including data on hatchling production. Priority actions at stock level: • G-NWS – Continue long-term monitoring of index beaches. • LH-WA – Continue long-term monitoring of nesting and foraging populations. • F-Pil – No relevant actions.	Not inconsistent assessment: Woodside contributes to Action Area B1 via its support of the Ningaloo Turtle Program.	N/A

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
	Action Area B3: Address information gaps to better facilitate the recovery of marine turtle stocks.	Action: Understand the impacts of anthropogenic noise on marine turtle behaviour and biology Priority actions at stock level: • G-NWS – Given this is a relatively accessible stock that is likely to be exposed to anthropogenic noise, investigate the impacts of anthropogenic noise on turtle behaviour and biology and extrapolate findings from the NWS stock to other stocks. • LH-WA – No relevant actions. • F-Pil – No relevant actions.	Refer to Section 6.6.3. Not inconsistent assessment: The assessment of acoustic emissions has considered the potential impacts to marine turtles. Noise related to the Petroleum Activity is not expected to result in behavioural response, injury or mortality of individuals, or any other lasting effect.	EPO 4 C 4.1, 4.2, 4.3 PS 4.1, 4.2, 4.3
Assessment summary The Recovery Plan for Marine Turtles in Australia has been considered when assessing impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

Table 6-29: Assessment against relevant actions of the Blue Whale Conservation Management Plan

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
Blue Whale Conservation Management Plan	Action Area A.2: Assess and address anthropogenic noise.	Action 2: Assess the effect of anthropogenic noise on blue whale behaviour. Action 3: Anthropogenic noise in biologically important areas will be managed such that any blue whale continues to use the area without injury and is not displaced from a foraging area.	Refer to Section 6.6.3. Not inconsistent assessment: The assessment of acoustic emissions has considered the potential impacts to cetaceans. Acoustic emissions from project vessels are not expected to reach any pygmy blue whale BIAs. There are no known or possible foraging areas for pygmy blue whales within or adjacent to the Operational Area or noise EMBA.	EPO 4 C 4.1, 4.2, 4.3 PS 4.1, 4.2, 4.3

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
	A.3: Understand impacts of climate variability and change	Action 1: Understanding impacts of climate variability and change	Refer to Section 6.6.7. Not inconsistent assessment. Section 6.6.7 includes an assessment of the Petroleum Activity GHG emissions on marine fauna.	N/A
	Action Area A.4: Minimise vessel collisions.	Action 3: Ensure the risk of vessel strikes on blue whales is considered when assessing actions that increase vessel traffic in areas where blue whales occur and, if required, appropriate mitigation measures are implemented.	Refer to Section 6.7.17. Not inconsistent assessment: The assessment of a vessel collision with marine fauna has considered the potential risks to cetaceans. Vessel collisions with cetaceans, including pygmy blue whales, are highly unlikely to occur, given the low operating speed of support vessels.	EPO 23 C 4.1, 4.3 PS 4.1, 4.3
	Action Area B.3: Describe spatial and temporal distribution and define biologically important habitat.	Action 2: Identify migratory pathways between breeding and feeding grounds. Action 3: Assess timing and residency within biologically important areas.	Not inconsistent assessment: Woodside contributes to Action Area B.3 via its support of targeted research initiatives (e.g. satellite tracking of pygmy blue whale migratory movements).	N/A
Assessment summary The Blue Whale Conservation Management Plan has been considered when assessing impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan				

Table 6-30: Assessment against relevant actions of the Recovery Plan for the Grey Nurse Shark (*Carcharias taurus*)

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
Recovery plan for the grey nurse shark	Objective 7: Improve understanding of the threat of pollution and	Action 7.1: Review and assess the potential threat of introduced species, pathogens and pollutants.	Refer to Section 6.6. Not inconsistent assessment: This EP includes an assessment of the impacts from planned discharges to the marine environment, including produced water.	Refer to Section 6.6

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
	disease to the grey nurse shark.		Refer to Section 6.7. Not inconsistent assessment: This EP includes an assessment of the impacts from unplanned discharges to the marine environment, including unplanned releases of hydrocarbons.	Refer to Section 6.7 Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the Petroleum Activity are presented in Appendix G.
Assessment summary The Grey Nurse Shark Recovery Plan has been considered when assessing impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

Table 6-31: Assessment against relevant actions of the Sawfishes and River Sharks Multispecies Recovery Plan

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
Sawfishes and River Sharks Multispecies Recovery Plan	Objective 5: Reduce and, where possible, eliminate adverse impacts of habitat degradation and modification on sawfish and river shark species.	Action 5c: Identify risks to important sawfish and river shark habitat and measures needed to reduce those risks.	Refer Section 6.6 and 6.7 Not inconsistent assessment: The assessment of accidental release of chemicals/hydrocarbons has considered the potential risks to sawfish and river shark. Spill risk strategies and response program include management measures, as identified and required.	Refer Section 6.6 and 6.7 Detailed oil spill preparedness and response performance outcomes, standards and measurement criteria for the Petroleum Activity are presented in Appendix G.

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
	Objective 6: Reduce and, where possible, eliminate any adverse impacts of marine debris on sawfish and river shark species, noting the linkages with the 'Threat Abatement Plan for the impact of marine debris on vertebrate marine life'.	Action 6a: Assess the impacts of marine debris including ghost nets, fishing gear and plastics on sawfish and river shark species.	Refer Section 6.7.15.. Not inconsistent assessment: The assessment of the accidental release of solid hazardous and non-hazardous wastes has considered the potential risks to sawfish. Controls have been implemented to reduce the likelihood of accidental release of solid wastes for the duration of the Petroleum Activity.	EPO 22 PS 22.1, 22.2, 22.3, 22.4
Assessment summary The Sawfish and River Shark Recovery Plan has been considered when assessing impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

Table 6-32: Assessment against relevant actions of the Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans	Objective 2: Understand the scale of marine plastic and microplastic impact on key species, ecological communities and locations.	Action 2.04: Build understanding related to plastic and microplastic pollution.	Refer to Section 6.7.15. Not inconsistent assessment: The assessment of the accidental release of solid hazardous and non-hazardous wastes has considered the potential risks to the marine environment. Controls have been implemented to reduce the likelihood of accidental release of solid wastes for the duration of the Petroleum Activity.	EPO 22 PS 22.1, 22.2, 22.3, 22.4
Assessment summary The 'Threat Abatement Plan for the impacts of marine debris on the vertebrate wildlife of Australia's coasts and oceans' has been considered when assessing impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

Table 6-33: Assessment against relevant actions of the National Recovery Plan for the Southern Right Whale

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
National Recovery Plan for the Southern Right Whale	A2: Address habitat degradation impacts from coastal and offshore marine infrastructure developments within the species' range.	Action 1 Coastal and offshore development actions are assessed according to principles of ecological sustainable development to ensure the risk of injury, auditory impairment and/or disturbance to southern right whales is maintained. Action 3 Current information on species' occurrence, particularly in habitat critical to the survival, BIAs, and historic high use areas, are used to inform planning, assessment and decision-making on marine infrastructure development actions.	Refer to Section 6.6.3. Not inconsistent assessment: This EP assesses the potential impacts of the Petroleum Activity on cetaceans. No BIAs for habitat critical to the survival for the southern right whale overlap the EMBA for any planned impacts.	N/A
	A3: Understand impacts of climate variability and anthropogenic climate change on the species biology and population recovery.	Action 1 Continue to meet Australia's international commitments to address causes of climate change, including greenhouse gas emissions	Refer to Section 6.6.7. Not inconsistent assessment. Section 6.6.7 includes an assessment of the Petroleum Activity GHG emissions on marine fauna and the Petroleum Activities contribution of GHG emissions.	N/A

Part 13 statutory instrument	Relevant action areas/objectives	Relevant actions	Evaluation	Relevant EPO and EPS
	A5: Assess, manage and mitigate impacts from anthropogenic underwater noise.	Action 2: Actions within and adjacent to southern right whale BIAs and habitat critical to the survival should demonstrate that it does not prevent any southern right whale from using the area or cause auditory impairment. Action 3: Actions within and adjacent to southern right whale BIAs and habitat critical to the survival should demonstrate that the risk of behavioural disturbance is minimised. Action 4: Ensure environmental assessments associated with underwater noise-generating activities include consideration of national policy (e.g. EPBC Act Policy Statement 2.1) and guidelines related to managing anthropogenic underwater noise and implement appropriate mitigation measures to reduce risks to southern right whales to the lowest possible level. Action 5: Quantify the risks of anthropogenic underwater noise to southern right whales, including studies aimed to measure physiological effects, behavioural disturbance, and changes to acoustic communication (e.g. masking of vocalisations) to whales.	Refer to Section 6.6.3. Not inconsistent assessment: This EP assesses the potential impacts of the petroleum activity on cetaceans. No BIAs for habitat critical to the survival for the southern right whale overlap the noise EMBA.	EPO 5 C 5.1, 5.2 PS 5.1, 5.2
	A6: Manage, minimise and mitigate the threat of vessel strike.	Action 1: Assess risk of vessel strike to southern right whales in BIAs. Action 3: Ensure environmental impact assessments and associated plans consider and quantify the risk of vessel strike and associated potential cumulative risks in BIAs and habitat critical to their survival.	Refer to Section 6.7.17. Not inconsistent assessment: The assessment of a vessel collision with marine fauna has considered the potential risks to cetaceans. Vessel collisions with southern right whales are highly unlikely to occur, given the low operating speed of support vessels.	EPO 2 C 5.1, 5.2 PS 5.1, 5.2
Assessment summary The National Recovery Plan for the Southern Right Whale has been considered when assessing impacts and risks, and the Petroleum Activity is not considered to be inconsistent with the relevant actions of this plan.				

7. IMPLEMENTATION STRATEGY

7.1 Overview

Regulation 22 of the Environment Regulations requires an EP to contain an implementation strategy for the activity. The implementation strategy for the Petroleum Activity confirms fit-for-purpose systems, practices and procedures are in place to direct, review and manage the activities so environmental risks and impacts are continually being reduced to ALARP and are acceptable, and that EPOs and EPSs outlined in this EP are achieved.

Woodside, as operator, is responsible for ensuring the Petroleum Activity is managed in accordance with this implementation strategy and the WMS (Section 1.6).

7.2 Systems, practices and procedures

All operational activities are planned and performed in accordance with relevant legislation and internal environment standards and procedures identified in this EP (Section 6).

Processes are implemented to verify controls to manage environmental impacts and risks to:

- a level that is ALARP and acceptable
- meet EPOs
- comply with EPSs defined in this EP.

The systems, practices and procedures that are implemented are listed in the EPSs contained in this EP. Document names and reference numbers may be subject to change during the statutory duration of this EP and is managed through a Change Register and update process. Further information regarding some of the key systems, practices and procedures relevant to implementation of this EP is provided below.

7.2.1 Woodside Management System operate processes

Under the WMS Operate Activity (Section 1.6) there are four overarching processes; those directly relevant to the implementation of this EP and environmental management during the Petroleum Activity are described below.

7.2.1.1 Operate plant

The objective of the Operate Plant Process is for production to be carried out in a safe, efficient, reliable and economic manner, and that all required process variables are within allowable limits. This is so that the potential for unplanned (accident/incident) events that may impact the environment are minimised.

The Operate Plant Process develops key activities to support ongoing production activities so that the facility is operated within the Basis of Design. The process also identifies required production routines, routine execution, recording of data gathered and formulation of remedial activities. The Operate Plant Process includes the Integrated Safe System of Work (ISSoW) system (described below).

In addition, the Operating Practice MSPS (M02) is in place to assure operating practices are in place, such that:

- integrity-critical operating procedures are available, accurate, up to date, understood and used
- safe operating and technical integrity limits are defined, understood and the process is managed within these limits.

7.2.1.2 Integrated safe system of work

The ISSoW Procedure outlines the key activities required to effectively manage permit-controlled work on the facility. The ISSoW process is a management system for all work and is a key element in ensuring personnel safety, protecting the environment, and protecting the technical integrity of the facility.

Work within the 500 m PSZ and operations within the vicinity of the connected flowlines is controlled in accordance with the ISSoW system.

The ISSoW takes a risk-based approach to activities. Thus, tasks with higher levels of risk are subjected to greater scrutiny and control. The ISSoW also allows low-risk routine tasks to be carried out with adequate but minimal administration. The prime objective of the ISSoW is to ensure work other than normal operations is properly planned, risk-assessed, controlled, coordinated and safely executed. It provides a methodical approach to identifying hazards, assessing risks, and creating and supporting permits to work and associated certificates.

In keeping with ALARP principles, this system is critical to ensuring the appropriate level of hazard identification and risk assessment is carried out for activities performed on the facility.

In addition, the Safe Work Control MSPS (M04) is in place to assure effective safe work control, permit to work and task risk management arrangements are in place and followed to control the risks arising from work activities.

7.2.1.3 Maintain assets

The ‘maintain assets’ process aims to improve the reliability and availability of plant and equipment – which includes that required for safe operation – through well managed and planned execution of maintenance that promotes a proactive maintenance culture.

Maintenance, inspection and testing systems and procedures are in place to safeguard the integrity of the facility. The maintenance strategy for the facility is based on optimising safety, minimising environmental impact and maximising production. Maintenance practices used to establish well managed maintenances strategies, planned execution and improvement are described in the Maintenance of Assets Procedure.

A risk-based approach is used as the basis for establishing and prioritising inspection, maintenance and testing requirements at the facility. Equipment is assessed to establish equipment criticality with respect to the consequences and likelihood of equipment failure. This informs determination of appropriate maintenance and inspection activities. Maintenance activities are allocated risk rankings according to the criticality of equipment, to ensure high-risk maintenance work orders are completed as a priority.

A computerised maintenance management system (CMMS) provides a database that contains facility registers, equipment details, spare parts data and associated planned maintenance tasks. This system is used to plan, monitor and record maintenance activities. The system provides various reports that enable monitoring and assessment of maintenance activities.

SCE technical performance standards identify SCEs (hardware controls, the failure of which could cause or contribute substantially to a or the purpose of which is to prevent or limit the effect of a MAE/MEE or Process Safety Event) and associated assurance activities. These activities are identified in the CMMS and given the appropriate priority (‘critical’ status). Refer to Sections 2.3 and 7.2.6 for more detail about SCE technical performance standards and how they differ from EPSs required by the Environment Regulations. SCE technical performance standards form a key component in the processes and systems Woodside implements to maintain safety- and environment-critical plant and equipment.

In addition, the Maintenance and Inspection MSPS (M03) is in place to assure that the necessary inspection and maintenance requirements are identified and carried out to maintain the integrity of SCEs and SCCs.

7.2.2 Process safety management

So that Woodside protects the safety, security and health of its employees, contractors, the environment and assets, Woodside has adopted the Energy Institute’s Process Safety Management (PSM) framework within

its PSM Procedure, which sets out a disciplined framework for managing the integrity of systems and processes that handle hazardous substances over the production (and exploration) lifecycle. It deals with preventing and controlling events that have the potential to release hazardous materials and energy.

PSM consists of four main focus areas. Each focus area contains a number of PSM requirements that define key aspects required so that PSM is integrated through the organisation. There are twenty PSM requirements. The focus areas and requirements are shown in Table 7-5.

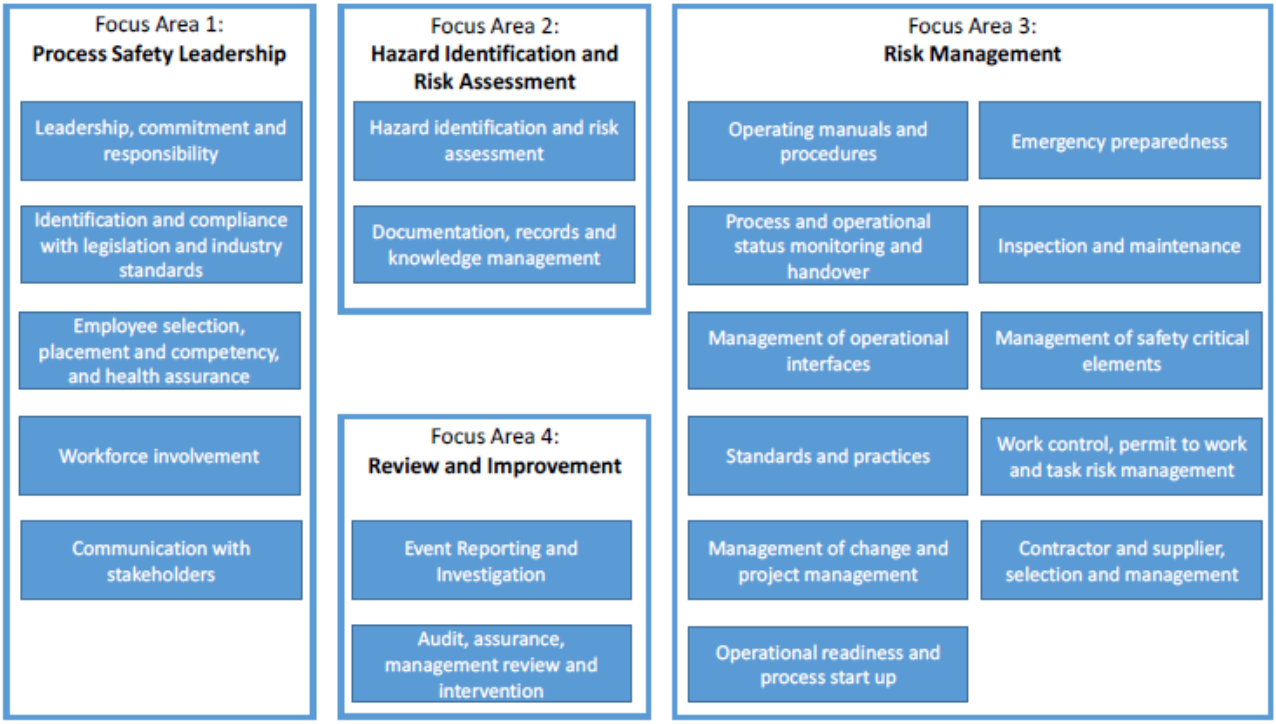


Figure 7-1: Process safety management focus area

7.2.2.1 Woodside Safety Culture Framework

Woodside's 'Our Safety Culture' framework (shown in Figure 7-2) promotes a strong HSE culture and is a key enabler for effectively managing process safety. This framework outlines the expected behaviours for everyone, including supervisors and managers/executives, and is openly discussed as part of inductions, training and development.

Figure 7-2: Woodside's 'Our Safety Culture' framework

7.2.3 Offshore Marine Discharge Adaptive Management Plan

7.2.3.1 Overview

The Offshore Marine Discharges Adaptive Management Plan (OMDAMP) has been developed to manage routine discharges to the marine environment from applicable offshore production facilities.

The objectives of the OMDAMP are to:

- manage marine discharges in a way that reduces the environmental risks and potential environmental impacts to as low as reasonably practicable (ALARP) and of an acceptable level
- define monitoring measures to determine whether routine marine discharges comply with regulatory requirements and Woodside's Environmental Performance Procedure.
- perform detail verification assessment and non-routine monitoring when routine monitoring identifies a change in discharge characteristics that have the potential to alter existing compliance with the Environmental Performance Procedure or relevant facility Operations EPs.

The OMDAMP defines a process and rational for management of routine discharges such as produced water (PW), cooling water, and brine to the marine environment. The OMDAMP considers applicable technical guidance (including the Commonwealth ANZG for fresh and marine water quality, National Water Quality Management Strategy and Technical Guidance: Protecting the quality of Western Australia's marine environment (EPA, 2016)) as well as relevant internal procedures and asset specific EP commitments. In addition, the OMDAMP is based on Woodside's experience managing PW at multiple northwest shelf offshore facilities and considers monitoring data collected over 20 to 30 years; allowing the application of appropriate controls and any lessons learnt to ensure impacts are acceptable and reduced to ALARP.

7.2.3.2 Routine monitoring and management

Monitoring changes in water quality as well as investigating potential toxicity via whole effluent toxicity (WET) testing and implementing management to maintain acceptable levels of changes is standard industry practice in Commonwealth and State waters. By limiting the changes to water quality and therefore the pathway to impact sediment quality and biota there is high confidence no environmental impact has occurred outside the approved mixing zone boundary.

The OMDAMP details guideline values, routine monitoring assessment against trigger values, analytical methods and actions when a trigger value is exceeded. The trigger values are applied through a risk-based

approach that is intended to capture uncertainty around the level of impact by staging monitoring and management responses according to the degree of risk of environmental impact. This approach provides a level of confidence that management responses are not triggered too early (i.e. when there is no actual impact) or too late after significant or irreversible damage to the surrounding ecosystem (EPA, 2016). Changes in discharge contaminants and PW toxicity can be detected early and can indicate the potential for an impact prior to an impact occurring allowing for timely management. WET testing confirms if there is a potential for impact on biota.

PW samples should be representative of normal operations, hence timing of sampling coincides with a period of normal operating circumstances for a facility, as well as also considering when wells have begun to cut water, which formation water producing wells are online and chemicals that may be present in the discharge stream. Ensuring samples are representative of normal operations may require deferring sampling within the calendar year if required. Samples are analysed by a NATA accredited laboratory (where applicable) for key physio-chemical parameters and chemical analytes.

WET tests are undertaken on a broad range of taxa of ecological relevance for which accepted standard test protocols are well established. WET tests mainly focus on the early life stages of test organisms, when organisms are typically most sensitive to contaminants; the tests are designed to represent local trophic level receptors. For WET testing, a range of tropical and temperate Australian marine species were selected based on their ecological relevance, known sensitivity to contaminants, availability of robust test protocols, and known reproducibility and sensitivity as test species. The dilutions required to protect 99% and 95% of species are calculated using the Warne et al. (2018) methodology. If a trigger value is not met, it indicates uncertainty around whether the environmental value is being protected and further investigation is required (Figure 7-3).

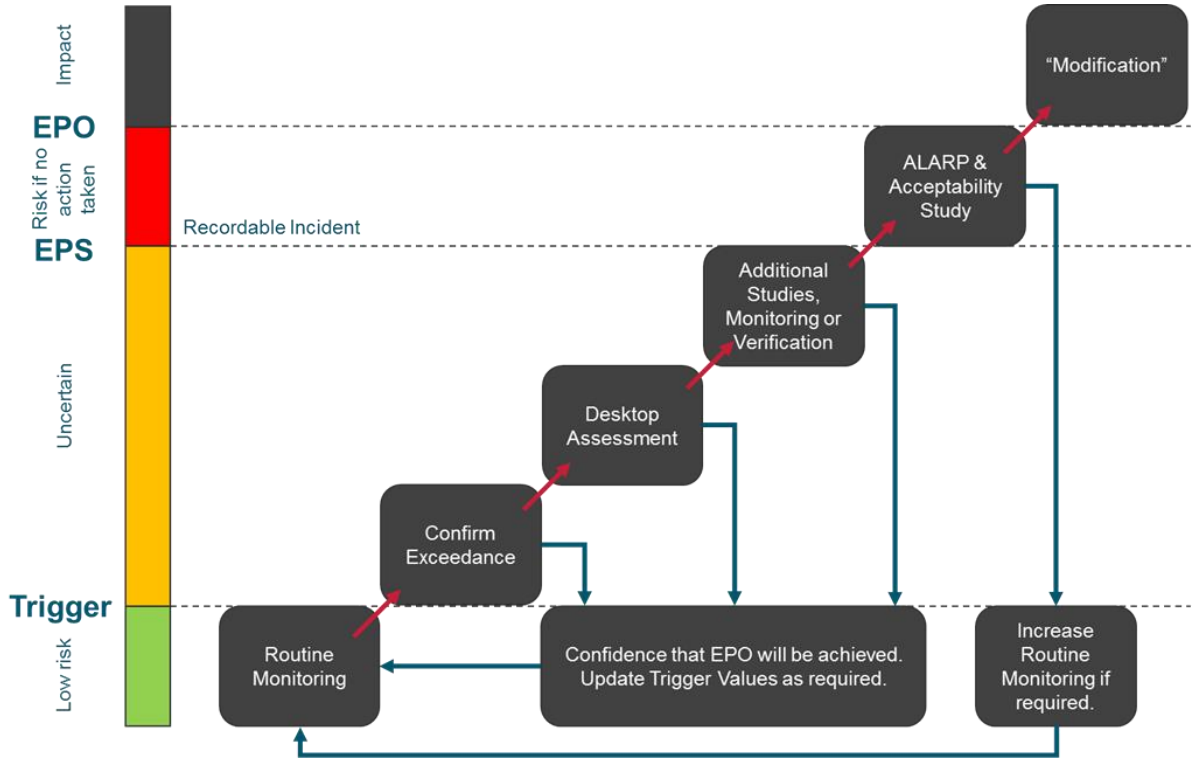


Figure 7-3: Routine monitoring and adaptive management framework for produced water

7.2.3.3 Further investigations

Detectable exceedances in trigger values may occur without impacting the environment. To provide confidence that environmental impact has not occurred outside the approved mixing zone boundary, further

investigation would be required in the form of a desktop study to initially assess the exceedance in context of available data and confirm if there is potential for impact to the environment. A desktop assessment is necessary before undertaking additional in-field monitoring. This ensures monitoring programs are designed and implemented to provide robust findings based on good survey design.

A range of methods can be used to detect trigger value exceedances (e.g. relative percentage difference, control charts, multivariate analysis, etc.) depending on the dataset available. An appropriate method is selected as described in the OMDAMP due to the variable nature of environmental data. If critical data are not available, the desktop study identifies potential data gaps and may recommend additional non-routine studies and/or monitoring to ensure the assessment is appropriately undertaken. The purpose of the 'further investigations' step is to provide certainty that the EPO has been achieved, if a trigger value has been exceeded. The key investigation steps are described below:

- **Confirm the trigger value has been exceeded** – Review quality assurance and quality control, methodology and possible sources of contamination to determine if the results are reliable, or if any factors have occurred that may compromise the integrity of the monitoring or data. If necessary, repeat monitoring.
- **Desktop assessment to understand whether the EPO is at risk** – If a trigger value is confirmed to be exceeded, multiple lines of evidence are considered including historical and current data from routine and non-routine monitoring and studies. This assessment shall consider whether there is adequate evidence to demonstrate that acceptability criteria have been met and (EPO not breached). If the desktop assessment determines that the existing body of evidence is insufficient, it shall outline what additional monitoring or studies are required. Potential additional monitoring/studies may include:
  - single species test (collected annually in parallel with routine chemical characterisation should further investigation be required)
  - dilution modelling and or studies
  - flocculation, sedimentation, settling velocity and/or dispersion analysis
  - metal bioavailability
  - scanning electron microscopy and particle size distribution analyses
  - in-situ monitoring (water quality and/or sediments).

Routine monitoring activities may be required ahead of schedule and additional monitoring not listed may be undertaken as appropriate. Field monitoring is undertaken in accordance with a plan that details timing, locations and objectives of monitoring.

Conduct additional studies to confirm the EPO is not at risk – Monitoring results provide additional lines of evidence to determine whether there is a risk of environmental impact at the mixing zone boundary due to unacceptable changes in water quality resulting in changes to sediment, or biological indicators. Given the significant health, safety and technical risks, logistics and planning required, monitoring of the receiving environment is typically only considered when all other sources of evidence are insufficient to demonstrate that the EPO is not at risk. The OMDAMP provides detailed guidance on the steps and actions required to be undertaken if a trigger value is exceeded and this may include additional non-routine monitoring to verify that environmental impacts have not occurred outside the boundary of the mixing zone.

If triggers are being exceeded but no impact to the environment is predicted to occur the desktop assessment may consider development of site-specific trigger values in line with ANZG. For example, if chemical characterisation identified copper as exceeding trigger - ANZG 99% DGV but further investigations concluded levels observed were consistent with baseline and naturally occurring in the region. If potential impacts to environment are identified, an ALARP/Acceptability Study is required to determine what additional controls can be implemented to ensure the impacts are not realised.

7.2.3.4 As low as reasonably practicable/acceptability study

An ALARP/acceptability study is conducted once it has been determined, as a result of further investigations, that there is potential for an impact that exceeds the acceptable limits of change. The ALARP/acceptability study shall be conducted in accordance with the ALARP Demonstration Procedure, to determine additional controls that may be necessary to reduce the potential impacts. Additional management measures (controls) may include technology, process upgrades or reservoir management. Woodside will implement the additional controls identified in the ALARP/Acceptability study that are required to give confidence that the acceptable limits of impact can be achieved.

In the event sampling of MEG salts indicates there is a potentially significant pathway for mercury to enter the marine environment, the study would need to consider as a minimum volumes, duration, source, speciation and potential for settlement. The ALARP study may implement measures such as:

- well management
- inboarding
- collection of MEG salts for onshore disposal
- increased non routine monitoring
- insitu monitoring
- remediation
- technology or process upgrades.

In the event WET testing identifies a higher-than-expected effluent toxicity the study would need to consider discharge volumes, duration, well line up, potential drivers of toxicity. The ALARP study may recommend:

- non routine WET testing
- operational discharge limits
- change out of process chemicals if appropriate or reduction of dosing rates
- well management
- inboarding
- insitu monitoring
- technology or process upgrades.

In the event in-situ plume measurement and analysis of plume dilution indicates that the EPO may not be met the study would need to consider discharge volumes, discharge toxicity, well line up, process chemicals and baseline data. The ALARP study may recommend:

- implement discharge limits
- well management
- insitu monitoring
- technology or process upgrades
- inboarding
- change out of process chemicals if appropriate or reduction of dosing rates.

7.2.3.5 Review and revision

This OMDAMP is typically reviewed annually to incorporate:

- annual OMDAMP compliance review – incorporating any recommendations for further assessment and/or updates to the monitoring framework
- recently accepted EPs - incorporating any new/amended monitoring commitments/triggers
- regulatory inspections – incorporating any relevant findings or recommendations
- updates to key guidelines, guideline values or changes to recommended sampling/ methodologies.

7.2.4 Environmental consideration during selection, assessment and approval of chemicals

As part of Woodside's chemical approval process, operational chemicals required by the Petroleum Activity are selected and approved in accordance with the Woodside Chemical Selection and Assessment Environment Guideline. This guideline is used to demonstrate that the potential impacts of the chemicals selected are acceptable and ALARP, and meet Woodside's corporate requirements (as outlined in Woodside's Environmental Performance Procedure, which requires chemicals to be selected with the lowest practicable environmental impacts and risks, subject to technical constraints). A summary of the environmental requirements of the guideline is outlined below.

7.2.4.1 Environmental selection criteria

he Woodside Chemical Selection and Assessment Environment Guideline follows the principles outlined in the OCNS which manages chemical use and discharge in the United Kingdom (UK) and the Netherlands (background on the OCNS provided is below).

Operational chemicals will be selected/assessed in compliance with the Woodside Chemical Selection and Assessment Environment Guideline, specifically:

- Where operational chemicals with an OCNS rating of Gold/Silver/E/D and no OCNS substitution or product warning are selected, or a substance is considered to pose little or no risk to the environment (PLONOR), no further control is required. (Such chemicals do not represent a significant impact on the environment under standard use scenarios and therefore, are considered ALARP and acceptable).
- If other OCNS rated or non-OCNS rated operational chemicals are selected, the chemical will be assessed as follows:
  - If there is no planned discharge of the operational chemical to the marine environment, written technical verification of the 'no discharge' fate must be provided, and no further assessment is required.
  - If there is planned discharge of the operational chemical to the marine environment, a further assessment/ALARP justification will be conducted.

The ALARP assessment will include consideration of chemical toxicity, biodegradation and bioaccumulation potential, using industry standard classification criteria (CEFAS scheme criteria).

If a product has no specific ecotoxicity, biodegradation or bioaccumulation data available, the following options are considered:

- Environmental data for analogous products can be referred to where chemical ingredients and composition are largely identical.
- Alternatively, environmental data may be referenced for each separate chemical ingredient (if known) within the product.

If no environmental data is available for a chemical or if the environmental data does not meet the acceptability criteria outlined above, potential alternatives for the chemical will be investigated, with preference for options with a Hazard Quotient (HQ) band of Gold or Silver, or are OCNS Group E or D with no substitution or product warnings.

If no more environmentally suitable alternatives are available, further risk reduction measures (e.g., controls related to use and discharge) will be considered for the specific context and implemented where relevant so that the risk is ALARP and acceptable.

Once the further assessment/ALARP justification has been completed, concurrence from the relevant manager that the environmental risk as results of chemical use is ALARP and acceptable is obtained

7.2.4.2 Background overview of the Offshore Chemical Notification Scheme

The OCNS applies the requirements of the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention). The OSPAR Convention is widely accepted as best practice for chemical management.

All chemical substances listed on the OCNS ranked list of registered products have an assigned ranking based on toxicity and other relevant parameters such as biodegradation, and bioaccumulation, in accordance one of two schemes (as shown in Figure 7-4):

Hazard Quotient Colour Band: Gold, Silver, White, Blue, Orange and Purple (listed in order of increasing environmental hazard), or

OCNS Grouping: E, D, C, B or A (listed in order of increasing environmental hazard). Applied to inorganic substances, hydraulic fluids and pipeline chemicals only.

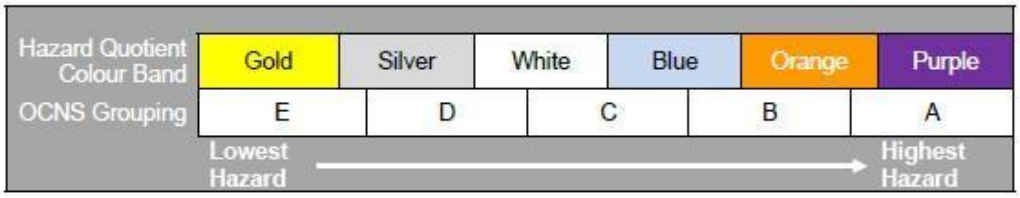


Figure 7-4: Offshore Chemical Notification Scheme ranking

7.2.5 Woodside invasive marine species risk assessment process

7.2.5.1 Objective and scope

To minimise the risk of introducing IMS as a result of the Petroleum Activity, all applicable vessels and immersible equipment will be subject to Woodside's IMS risk assessment process (unless exempt as outlined below).

The objective of the risk assessment process is to identify the level of threat a contracted vessel, or immersible equipment poses if no additional risk reduction management measures are implemented.

This allows Woodside (and its contractors) to apply management options that are commensurate to the identified level of risk. In context of the activities specified in Section 3, the IMS risk assessment process does not apply to:

- vessels or immersible equipment that do not plan to enter the IMS Management Area (IMSMA)[61] or Operational Area defined in environmental approvals
- 'new build' vessels launched <14 days before mobilisation

61 The IMSMA is defined as all nearshore waters around Australia, extending from the lowest astronomical tide mark to 12 nm from land ('Territorial Seas', and including Australian territorial islands). The IMSMA also includes: (i) all waters which are shallower than the 50-metre depth contour outside of the 12 nm boundary, thereby encompassing submerged reefs and atolls, and (ii) Operational Areas defined in environmental approvals. The IMSMA is based on current maritime boundary definitions, legal frameworks and requirements, IMS risk interpretations and existing management arrangements applied by Commonwealth and State/Territory regulatory agencies.

- vessels or immersible equipment inspected by a suitably qualified IMS inspector who has classified the vessels or immersible equipment as acceptably low risk no more than 14 days before mobilisation
- locally sourced vessels or immersible equipment from within the Western locally sourced zone [62]. Vessels, or immersible equipment are defined as locally sourced when the same supply facilities/port have been used since their last IMS inspection, full hull clean in dry dock or application of antifouling coating (AFC).

7.2.5.2 Risk assessment process

Woodside's IMS risk assessment process was developed with regard to the national biofouling management guidelines for the petroleum production and exploration industry and guidelines for the control and management of a ship's biofouling to minimise the transfer of invasive aquatic species (IMO, 2023).

To effectively evaluate the potential for vessels and immersible equipment to introduce IMS, a risk assessment process has been developed to score and evaluate the risk posed by each project vessel, or immersible equipment planning to undertake activities within an IMSMA or Operational Area. The risk assessment process considers a range of factors, as Marine in Table 7-1 and Table 7-2.

The IMS risk assessments will be undertaken by a trained environment adviser who has completed relevant Woodside IMS training or by a qualified and experienced IMS inspector. A quality assurance and control process is implemented for all IMS risk assessments Woodside conducts, where a secondary trained environment adviser verifies the assessment to minimise the risk of misapplication and errors within the risk assessment process.

Table 7-1: Key factors considered as a part of the risk assessment process for vessels

Factors	Details
Vessel type	The risk of IMS infection varies depending on the type of vessel undertaking the activity. A higher risk rating is applied for more complex, slow-moving vessels (e.g. dredges) in comparison to simple vessels (e.g. crew transfer vessel).
Recent IMS inspection and cleaning history, including for internal niches	In the case of biofouling on external hull niches, different risk ratings are applied depending on whether out-of-water or in-water IMS inspections by qualified IMS inspectors and cleaning (if required) have been undertaken before the contract begins. If an IMS inspection (and clean if required) has not been undertaken in the past six months (from the time the contract begins), the highest risk factor is applied. The risk factor then lessens for vessels as the time between inspection and mobilisation reduces.
Out-of-water period before mobilising	A risk reduction factor can be applied for vessels that are hauled out and then mobilised as deck cargo or by road during mobilisation, therefore becoming air dried over an extended period. The risk reduction factor increases with exposure time out of water.
Age and suitability of AFC at mobilisation date	AFC manufacturers provide a range of coatings, each designed to avoid premature coating failure if it is correctly applied and matched to the vessel's normal speeds and activity profile (i.e. proportion of time spent stationary or below three knots) and its main operational region (i.e. tropical, subtropical temperate). If the AFC type is deemed to be unknown, unsuited or absent, the highest risk value is applied. If the AFC type is suitable, the risk factor applied reduces with age since application.
Internal treatment systems	A risk reduction factor is applied if the vessel has an internal biological fouling control system in place at the time of assessment, or evidence of manual dosing.
Vessel origin and proposed area of operation	Differing risk ratings are assigned in relation to the climatic relationship between the vessel's origin and the proposed climatic region of the proposed area of operation. The highest risk rating is applied to similar climatic regions.

62 The Western Locally Sourced Zone (W-LSZ) spans an area that includes the entire Western Australian coastline out to the Exclusive Economic Zone (EEZ) limit at 200 nm (excluding any government-declared Quarantine Areas).

Factors	Details
Number of stationary/slow speed periods >7 days	A risk factor is calculated based on the number of 7-day periods the vessel has operated at stationary or at low speed (<3 knots) in port or coastal waters which is any waters <50 m deep outside 12 NM from land or any waters within 12 NM of land. The greater the number of periods, the higher the risk factor applied.
Region of stationary or slow periods	A further multiplier is applied depending on the location of the stationary/slow speed periods. The highest risk rating is applied if the stationary or slow speed periods occurred within ports or coastal waters of the same climatic region.
Type of activity – contact with seafloor	The potential for introducing IMS varies based on the vessel activity taking place. Those activities that come in contact with sediments and thus have the potential to accumulate and harbour IMS in areas such as hoppers (dredges) and spud cans (drilling rigs) are considered to have a greater risk of infection.

Table 7-2: Key factors considered as a part of the risk assessment process for immersible equipment

Factors	Details
Region of deployment since last thorough clean, particularly coastal locations	Climatic region of use since last overhaul, thorough cleaning or prolonged period out of water (>28 days). Highest risk rating is applied to similar climatic regions. Activities occurring in nearshore areas (less than 50 m deep and/or within 12 NM from land) are given the highest risk rating.
Duration of deployments	Maximum duration of deployment (maximum time in water) since last overhaul or thorough cleaning. The longer the immersion period, the higher the risk rating applied.
Duration of time out of water since last deployment	A further risk reduction factor can be applied for immersible equipment that has been out of the water for an extended period.
Transport conditions during mobilisation	If the equipment is stored in damp conditions, a high risk factor is applied, but if equipment is stored in dry and well ventilated (low humidity) conditions, a low risk factor is applied.
Post-retrieval maintenance regime	A risk reduction factor is applied if the equipment/item of interest is routinely washed, cleaned, checked and/or dissembled between project sites, while a higher risk rating is applied where no routine cleaning occurs.

Following implementation of the risk assessment process, vessels and/or immersible equipment are classified as one of three risk categories:

- ‘low’ – low risk of introducing IMS of concern and hence no additional management required, or management options have been applied to reduce the risk
- ‘uncertain’ – risk of introducing IMS is not apparent and as such the precautionary approach is adopted, and additional management options may be required
- ‘high’ – high risk of introducing IMS means additional management options are required before this vessel mobilises to the Operational Area.

Following the allocation of a ‘low’ risk rating for a vessel or immersible equipment, the information provided by the vessel operator for the purposes of risk assessment must be confirmed prior to mobilisation. For vessels or equipment classified as posing an ‘uncertain’ or ‘high’ theoretical risk, a range of management options are presented to reduce this theoretical risk to acceptable levels and achieve a low-risk status. These management options have been developed with the intention of reducing IMS risk to levels that are as low as reasonably practicable (i.e., ALARP). It is a flexible approach that allows for a range of management actions to be tailored for a specific vessel movement. These will be assessed on a case-by-case basis and may include, but not limited to, the following:

- Inspection (desktop, in-water or dry dock) by a suitably qualified and experienced IMS inspector to verify risk status. Where practicable, the inspection shall occur within seven days (but not more than 14 days) prior to final departure to the Operational Area.

- In-water or dry dock cleaning of the hull and other niche areas. This is typically applied where the risk assessment outcome is High risk driven by the age of the AFC on the vessel and its time spent in similar climatic region ports
- Treatment of vessels internal seawater systems. This is typically applied in isolation for vessels with AFC applied to their hull within the last twelve months and where subsequent assessment through the process achieves a low-risk rating
- limiting the time the vessel spends within the IMSMA to a maximum of 48 hours (cumulative entries); applicable for 'uncertain' risk vessels only
- rejecting the vessel.

Vessels and immersible equipment are required to be a low risk of introducing IMS prior to entering the Operational Area.

7.2.6 Unexpected Finds Procedure

In the event of the discovery of what appears to be Underwater Cultural Heritage (defined as 'any trace of human existence that has a cultural, historical or archaeological character and is located under water'); the following Unexpected Finds Procedure will apply:

- All activities with the potential to impact the suspected underwater cultural heritage must cease immediately. Retain all records of the potential underwater cultural heritage, including any imagery, description and location.
- Person who discovers the heritage object must inform the Activity Supervisor.
- The Activity Supervisor must notify Woodside's Global Heritage Manager.
- Woodside will specify an appropriate buffer around the potential underwater cultural heritage, considering the nature and scale of the potential underwater cultural heritage and the activities to be managed.
- No seabed disturbance may occur within the buffer area around the potential underwater cultural heritage until approved by Woodside's Global Heritage Manager.
- Woodside's Global Heritage Manager must notify a qualified underwater archaeologist and provide all available documentation of the potential Underwater Cultural Heritage.
- If the potential underwater cultural heritage appears to be Aboriginal underwater cultural heritage, Woodside's Global Heritage Manager must notify the appropriate Traditional Custodians to determine whether it is a heritage site and, if so, how the site should be managed.
- If the potential underwater cultural heritage appears to be a shipwreck or aircraft that has been wrecked for more than 75 years, or is otherwise reportable under Section 40 of the *Underwater Cultural Heritage Act 2018*, Woodside's Global Heritage Manager must notify the Minister responsible for the Act, the DCCEEW underwater archaeology section through the Australasian Underwater Cultural Heritage Database, and the Western Australian Museum.
- If the suspected heritage object includes human remains, Woodside's Global Heritage Manager must also notify:
  - the Australian Federal Police (phone: 131 444) of the location of the remains, that the remains are likely to be historic or Aboriginal in origin, and that it may be appropriate that Traditional Custodians and a maritime archaeologist are present during any handling of the remains; and
  - the Office of the Federal Environment Minister in accordance with Section 20 of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*.

- Work must not recommence in the vicinity of the potential heritage object until Woodside's Global Heritage Manager provides written approval. Woodside's Global Heritage Manager must only provide written approval once agreed management measures are implemented, as consistent with approvals and legislation, or where the potential underwater cultural heritage is confirmed to not be underwater cultural heritage.

7.2.7 Risk management

Risk management processes and practices are applied on an ongoing basis to design, production and maintenance activities at the facility to manage risks to personnel, assets and the environment.

Potential environmental consequences and impacts from the facility are risk assessed and controlled in accordance with the Woodside risk management processes described in Section 2 of this EP (Environmental Risk Management Methodology).

The results of the facility ENVID are described in Section 6 and in the facility Environmental Impacts and Risk Register. This register, in conjunction with the EP, provides a demonstration that environmental risks have been identified, and that appropriate controls are in place to manage those risks to a level that is acceptable and ALARP throughout the life of the facility.

A number of other risk management tools and techniques are used by the facility to manage environmental and other risks on a routine basis during operational, maintenance and inspection tasks. Examples include:

- The processes outlined in Section 2.2.4;
- Risk management tools including: ISSoW tools; e.g., Hazard Identification and Risk Assessments, Level 2 Risk Assessments, Operational Risk Assessments, the technical Management of Change (MoC) system (Section 7.2.8), and Step Back 5 × 5
- Integrity review studies, HAZIDs and Hazard Operability studies.

These tools, risk and integrity management practices are described further in the Safety Case, WOMP, and the Control of Operational Risk Procedure.

In addition, other risk sub-processes and practices are also applied within Woodside on an ongoing basis to manage different types of risk. A summary of those relevant to the Petroleum Activities Program is provided below. Woodside's risk management processes (refer to Section 2.2.1), along with the supporting risk sub-processes and practices discussed in this section, ensure the environmental impacts and risks of the activity continue to be identified and reduced to a level that is ALARP.

7.2.7.1 Management of risks – contracting and procurement

Suppliers and contractors play a significant role in meeting the resource needs of Woodside's operations, including the facility operations. Environmental risks in contracts are effectively managed by setting clear expectations and managing environmental risks throughout the duration of the contract. Environmental risks in contracts are managed under the Contracting and Procurement Procedure, supported by the Health, Safety and Environment in Contracting Guideline. The guideline provides a risk-based approach to selecting and managing contractors and is aligned with 'HSE Management – Guidelines for Working Together in a Contract Environment' (International Association of Oil and Gas Producers, Report No. 423).

The Engineering Standard: Quality Requirements for Supply of Products and Services defines specific quality requirements for engineering contracts and purchase orders. The specified quality control requirements in the Standard must be complied with as applicable to the scope of supply.

7.2.7.2 Management of risks – subsea activities (operations)

Subsea activities are managed in line with the Subsea and Pipelines Integrity Management Procedure, which defines the practices and technical requirements that must be applied to deliver and safeguard integrity of the subsea infrastructure and pipelines during the facility lifecycle. It provides the relationship

between the PSM framework (including management of change) and Subsea and Pipelines Group services processes.

IMMR activities are managed under the Manage IMMR Work Procedure. Risk assessments are conducted as required under this procedure.

These requirements are supported by implementing the Subsea Construction and Inspection, Maintenance and Repair Environment Screening Questionnaire tool. The screening questionnaire is used to understand the scope of the activity, potential environmental impact, and if additional regulatory approvals are required. To achieve this, the questionnaire captures key project information such as seabed disturbance, chemical use and waste. This information is used by an environment focal person to determine if further assessment is required. For projects that have the potential for environmental impact, an assessment is undertaken against this EP and other Woodside environmental requirements. If determined by the Subsea and Pipeline Environment Screening Questionnaire process, an EP MoC review (as per Section 7.2.8.2) is undertaken to confirm if the level of environmental risk warrants revision and resubmission of an EP. Environmental questionnaires are maintained in the Subsea and Pipeline (SSPL) Environment Project Register.

Key environmental requirements and regulatory commitments are communicated to project teams and incorporated into key project documentation where applicable and required (i.e. not addressed via existing Woodside practices).

7.2.7.3 Management of risks – major projects

Major projects are required to follow the Appraise and Develop Management Procedure and the Opportunity Management Framework. This procedure defines the requirements to deliver a commercially valuable production facility or modify to an existing facility. The process workflow requires integration of work from various functions utilising their people and processes, including Environment, for example HSE philosophy and regulatory approval requirements.

These requirements are supported by implementation of the Brownfields Environment Screening Questionnaire tool. The screening tool is used to determine if a project has the potential for environmental impact or requires additional regulatory approvals. For projects that have the potential for environmental impact, an environmental focal point is assigned, and the risks and impacts assessed against the facility EP and other Woodside environmental requirements.

Key environmental requirements and regulatory commitments are communicated to project teams and incorporated into key project documentation where applicable and required (i.e. not addressed via existing Woodside practices). Where it is identified that the project scope has the potential to result in modification or change to the facility description provided in the EP, or where potential new environmental risks or impacts or increases in an existing environmental risk or impact are identified, an EP MoC review (as per Section 7.2.8) is undertaken to confirm if the level of environmental risk warrants revision and resubmission of an EP.

7.2.7.4 Management of risks – well integrity

Wells are managed throughout their lifecycle in line with the Well Lifecycle Management Procedure. This procedure provides the basis for ensuring well integrity in accordance with the Process Safety Management Procedure.

In addition, wells are required to have a regulator accepted Well Operations Management Plan to demonstrate that well integrity risks are managed to ALARP levels. Wells tied back to the facility are managed under a WOMP

7.2.7.5 Management of risks – marine services

Woodside's Marine Services provides a platform for the conduct of safe and efficient Marine Operations across Woodside through the Marine Services Management. A set of procedures that Support Vessel assurance and management (including HSE and quality (HSEQ) management) are in place to ensure marine operations are conducted in a safe and efficient manner, and in accordance with regulatory requirements.

More details on vessel assurance and the communication of environment requirements to vessels are provided in Section 1.1.

Vessel masters are required to request clearance from the facility OIM delegate prior to entering the 500 m PSZ.

7.2.7.6 Management of risks – emissions and energy management

Emissions generation and energy use is managed in line with the GHG Emissions and Energy Management Procedure which defines the minimum mandatory requirements to manage and deliver continuous improvement in energy efficiency and reduction in GHG emissions. The procedure supports the implementation of the Woodside Climate Policy and aligns with the requirements of the Environmental Performance Procedure, applicable to assets in Operate phase. It supports the "operate out" component of limiting net emissions, as shown in the Woodside Climate Policy.

Implementation of the GHG Emissions and Energy Management Procedure assists in meeting external expectations, such as Woodside's net equity Scope 1 and 2 greenhouse gas emissions reduction targets of 15% by 2025[63] and 30% by 2030[64], and our aspiration for net zero equity Scope 1 and 2 greenhouse gas emissions by 2050 or sooner[65]. These targets apply across Woodside's portfolio and progress against targets are reported in annual corporate disclosures. No specific reduction targets are set for individual assets as part of the corporate target. Meeting these corporate reduction targets may mean additional net voluntary abatement beyond that required by the SGM.

The GHG Emissions and Energy Management Procedure also maintains consistency with the principles of current corporate initiatives, such as the Zero Routine Flaring Initiative for oil assets, the OGMP 2.0, OGCI Near-Zero, and Methane Guiding Principles. The WMS Section 3 of the Climate Management Standard aims for assets that emit material amounts of methane to continually reduce methane through leak detection and repair, annual routine monitoring, accountability and governance, improving methane emissions data and increasing transparency through reporting and for emissions that cannot be mitigated, implement appropriate controls consistent with the principles of the OGCI Near-Zero. The Woodside Flare Framework is a WMS tool that seeks to improve awareness of flaring-related issues and influence for reduced flaring.

The GHG Emissions and Energy Management Procedure links to the annual review of opportunities to improve energy performance through identification and evaluation as described in the Production Optimisation and Opportunity Management Procedure. It also requires measurement, analysis and communication of energy performance across the Operations Division and consideration of actual or potential impacts to energy efficiency in company decision making, such as management of change, operational decisions, issue resolution options analysis and facility optimisation plans.

Opportunities to improve energy performance or reduce emissions are identified, captured, and evaluated as described in the Production Optimisation and Opportunity Management Procedure (see Section 7.2.7.6.1).

Identification considers a wide range of opportunities, including those that require formal allocation of budget and resources (longer term), as well as opportunities that can be executed as part of day-to-day operations. Opportunities identified are to be evaluated and implemented in a manner consistent with the Production Optimisation and Opportunity Management Procedure.

The Environmental Performance Procedure requires that assets measure, monitor or estimate direct air and GHG emissions, and that such emissions and energy intensities are minimised to ALARP in design. The

[63] *This means net equity for the 12-month period ending 31 December 2025 are targeted to be 15% lower than the starting base.*

[64] *This means net equity emissions for the 12-month period ending 31 December 2030 are targeted to be 30% lower than starting base.*

[65] *Targets and aspiration are for net equity Scope 1 and 2 greenhouse gas emissions relative to a starting base of 6.32 Mt CO2 -e which is representative of the gross annual average equity Scope 1 and 2 greenhouse gas emissions over 2016-2020 and which may be adjusted (up or down) for potential equity changes in producing or sanctioned assets with a final investment decision prior to 2021. Net equity emissions include the utilisation of carbon credits as offsets.*

requirement to set, measure and track fuel and flare targets for assets help manage the emissions to meet the EPS requirements in Section 6.6.7.

7.2.7.6.1 Production optimisation and opportunity management

Woodside's Production Optimisation and Opportunity Management Procedure (POOMP) outlines the process for identification, prioritisation and management of production opportunities that maximise production revenue or reduce emissions intensity across Woodside operated assets. Opportunities are identified throughout the year in various meetings, forums and teams. In addition, formal opportunity identification takes place through annual workshops, which complement the identification of improvement opportunities. These opportunities are prioritised and managed according to the workflow shown in Figure 7-5.

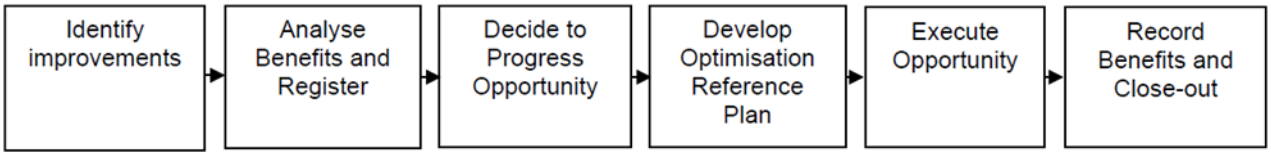


Figure 7-5: Opportunity management workflow

Production opportunities are evaluated and progressed based on value and confidence of return, within the constraints of technical feasibility, cost, and other factors. Implemented opportunities are validated and recorded before closeout.

7.2.7.7 Flare and fuel emissions target setting

In demonstrating the risks and impacts relating to fuel flaring have been reduced to ALARP, fuel and flare targets for the facility are set annually in accordance with Woodside's Greenhouse Gas, Fuel and Flare Target Setting Guideline. Targets are estimated based on operating experience and forecast activities; e.g. shutdowns. Consideration is also given to the fuel and flaring estimates contained within this EP.

The fuel and flare targets are tracked against fuel and flare performance through the year. Where achieving a flare target is in question, an internal flare target deviation is developed, which requires an ALARP justification. A flare target deviation considers EP flare estimates. If the estimate is likely to be exceeded, an EP management of change assessment (see Section 7.2.8) is undertaken to determine if a revision and resubmission is required.

7.2.7.8 Management of risks – indirect greenhouse gas emissions management

Woodside is committed to actively supporting the global transition to a lower carbon future, as outlined in the Woodside Climate Policy. To support this policy Woodside undertakes the following measures:

- Set science-based[66] near, mid, and long-term net emissions reduction targets that are consistent with Paris-aligned[67] scenarios, covering equity Scope 1 and 2 emissions, both operated and non-operated.[68]
- Develop and operate oil and gas projects in a manner that is consistent with these targets. This includes the deployment of lower-emission technologies (Design Out), supporting efficient operations (Operate Out) and use of robust offsets (Offset) as methods to reduce and offset greenhouse gas emissions.
- Invest in new energy products and lower carbon services to reduce customers' emissions (part of Woodside's Scope 3 emissions), including but not limited to hydrogen, ammonia and carbon capture, utilisation and storage.
- Publish transparent climate-related disclosures aligned to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) or other recognised global reporting standards.
- Align our advocacy to the principles of this Climate Policy.

Woodside's Scope 3 targets include the introduction of new products and services into our portfolio, like hydrogen, ammonia, and carbon capture, utilisation and storage (CCUS). These products and services can help our customers avoid or reduce their Scope 1 or 2 emissions and therefore reduce the life cycle (Scopes 1, 2 and 3) emissions intensity of Woodside's portfolio.

Woodside's initial Scope 3 target was an investment target, to invest $5 billion in new energy products and lower carbon services by 2030[6970]. In 2023, Woodside reviewed our approach to Scope 3 targets in response to investor feedback and supplemented the existing investment target with a new complementary emissions abatement target, to take final investment decisions on new energy products and lower carbon services by 2030, with total abatement capacity of 5 $MtCO_2$-e per year[71].

The investment target tracks Woodside's work at a corporate level to develop these projects and bring them to market. The emissions abatement target will track the potential impact of these projects on customer emissions. The customers for these products and services may be the same as the customers of our oil and gas business, directly substituting their energy for new products or directly abating the associated emissions. They may also be customers of the new products and services, without also being customers of oil and gas. Progress against these targets is reported annually in Woodsides annual disclosures. Targets are not set for individual assets, including Okha, but are assessed corporately.

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[66] Woodside is using the draft Prototype IFRS Sustainability Disclosure Standard definition of "science-based" (published 2021) which states "targets are considered 'science-based' if they are in line with what the most recent climate science sets out is necessary to meet the goals of the Paris Agreement – limiting global warming to below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit warming to 1.5 degrees Celsius." See https://www.ifrs.org/content/dam/ifrs/groups/trwg/trwg-climate-related-disclosures-prototype.pdf.

[67] Woodside is using the draft Prototype IFRS Sustainability Disclosure Standard definition of "Paris-aligned scenarios" (published 2021) which states "scenarios consistent with limiting global warming to below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit warming to 1.5 degrees Celsius." See https://www.ifrs.org/content/dam/ifrs/groups/trwg/trwg-climate-related-disclosures-prototype.pdf.

[68] Equity emissions means the share of the total emissions arising from an activity that are attributable to Woodside in proportion to Woodside's ownership interest in the activity, irrespective of whether Woodside operates the activity. Operated emissions are the total emissions arising from an activity that Woodside operates, irrespective of Woodside's ownership interest.

[69] Scope 3 targets are subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance. Potentially includes both organic and inorganic investment. Timing refers to financial investment decision, not start-up/operations.

[70] Includes pre-RFSU spend on new energy products and lower carbon services that can help our customers decarbonise by using these products and services. It is not used to fund reductions of Woodside's net equity Scope 1 and 2 emissions which are managed separately through asset decarbonisation plans.

[71] Includes binding and non-binding opportunities in the portfolio, subject to commercial arrangements, commercial feasibility, regulatory and Joint Venture approvals, and third party activities (which may or may not proceed). Individual investment decisions are subject to Woodside's investment targets. Not guidance.

7.2.7.8.1 Annual review

An annual review of the implementation and outcomes associated with Woodside working with the natural gas value chain to reduce emissions in third party systems via corporate activities will be undertaken. Additionally, progress against corporate Scope 3 investment and abatement targets will be reported annually in relevant Woodside annual disclosures. If they are deemed to be effective at a Corporate implementation level, then it will also be deemed that specific impacts and risks at an Asset contribution level (i.e., proportion attributable to Okha production) is also being managed appropriately.

If the annual review deems the controls are not effective, an EP management of change assessment (see Section 7.2.8) is undertaken to determine if a revision and resubmission is required.

7.2.7.9 Management of human factor related risks

The term 'human factors' is used to describe the consideration of people as part of complex systems. Woodside defines 'human factors' as follows: 'human factors uses what we know about people, organisation and work design to influence performance'.

Human factors can contribute to MEEs, or result in failure or degradation of the controls in place to protect against MEEs. The WMS includes several procedures designed to manage risks related to human factors and to prevent incident causation.

7.2.8 Change management

Woodside's Change Management Procedure describes Woodside's requirements for change management at Woodside owned or controlled operations/sites.

Change management is used where there is no existing approved business baseline, such as a process, procedure or accepted practice, or where conformance with an approved baseline is not possible or intended. For example, due to equipment fault or failure or a recently discovered issue that will take time to rectify. Change management is also used when the baseline is changed (e.g. the process is modified). It applies to managing temporary, permanent, planned or unplanned change encompassing one or more of the following:

- Plant (equipment, plant, technology, facilities, operations or materials)
- Projects (budget, schedule)
- People (organisation structure, performance, roles)
- Process (WMS content, processes, procedures, standards, legislation, information).

Woodside's change management process hierarchy is depicted in Figure 7-6. The hierarchy has been developed with sub-processes to address the different types of change performed at Woodside.

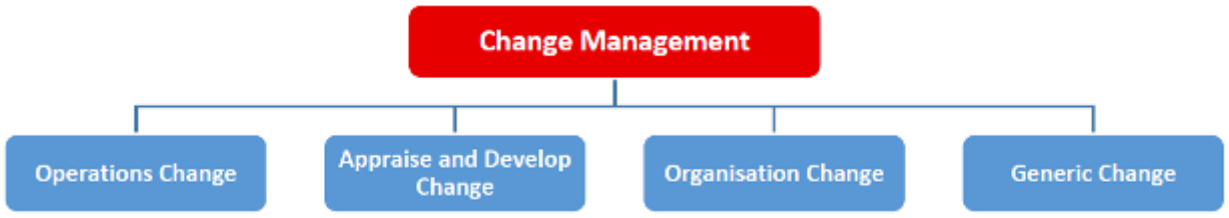

Figure 7-6: Change management hierarchy

To help manage the day to day operation of the facility, Woodside has developed a Golden Safety Rules Booklet, which summarises mandatory requirements for safety in the workplace and includes guidance for managing changes that impact health, safety, integrity or the environment impact.

7.2.8.1 Technical change management

Technical changes within the Operations Division are managed using the Management of Change – Assets Procedure. The objective of the procedure is to ensure HSE risks associated with both realised and potential changes, including any failure to meet the facility SCE Technical Performance Standards, are identified, assessed and reduced to ALARP (Section 7.2.9 provides further information on management of SCE Technical Performance Standards).

Assessed changes must be recommended, agreed and decided upon based on the assessed current level of risk, as defined by Woodside's Technical Decision Authority matrices.

The management of change requirements contained in the Process Safety Management Procedure and Management System Performance Standard M05 Management of Change are considered when conducting any changes with the potential to impact process safety.

The Engineering Management Procedure specifies key requirements of engineering related changes, and requires that engineering Technical Decisions are agreed, recommended and decided at the appropriate engineering authority level according to the risk. Change management and risk assessment include consideration of applicable legislation/regulation.

Change is also managed under management system requirements set out as part of major projects (Brownfields), wells integrity, subsea and pipelines integrity management and marine management system. Change management includes consideration of regulatory requirements, managed in accordance with the Regulatory Compliance Management Procedure.

In addition, the Management of Change MSPS (M05) is in place to assure process safety risks arising from change (temporary and permanent) are systematically identified, assessed and managed.

7.2.8.2 Environment Plan management of change and revision

Management of changes are managed in accordance with Woodside's Environmental Approval Requirements Australia Commonwealth Guideline. Management of changes relevant to this EP, concerning the scope of the activity description (Section 3) including: review of advances in technology at stages where new equipment may be selected such as vessel contracting; changes in understanding of the environment, DCCEEW EPBC Act listed threatened and migratory species status, Part 13 statutory instruments (recovery plans, threat abatement plans, conservation advice, wildlife conservation plans) and current requirements for AMPs (Section 4.8); and potential new advice from external stakeholders (Section 5), will be managed in accordance with Regulation 39 of the Environment Regulations.

Risk will be assessed in accordance with the environmental risk management methodology (Section 2.2.4) to determine the significance of any potential new environmental impacts or risks not provided for in this EP. Risk assessment outcomes are reviewed in compliance with Regulation 38 and 39 of the Environment Regulations.

Minor changes where a review of the activity and the environmental risks and impacts of the activity do not trigger a requirement for a formal revision under Regulation 38 or 39 of the Environment Regulations, will be considered a 'minor revision'. Minor administrative changes to this EP, where an assessment of the environmental risks and impacts is not required (e.g., document references, phone numbers, etc), will also be considered a 'minor revision'. Minor revisions as defined above will be made to this EP using Woodside's document control process. Minor revisions will be tracked in an MOC Register to ensure visibility of cumulative risk changes, as well as enable internal EP updates/reissuing as required. This document will be made available to NOPSEMA during regulator environment inspections.

7.2.8.3 Oil Pollution Emergency Plan management of change

Relevant documents from the OPEP will be reviewed in the circumstances of:

- implementation of improved preparedness measures
- a change in the availability of equipment stockpiles

- a change in the availability of personnel that reduces or improves preparedness and the capacity to respond
- the introduction of a new or improved technology that may be considered in a response for this activity
- to incorporate, where relevant, lessons learned from exercises or events
- if national or state response frameworks and Woodside's integration with these frameworks change.

Where changes are required to the OPEP, based on the outcomes of the reviews described above, they will be assessed against Regulations 38 and 39 to determine if resubmission of the EP, including the OPEP, is required. Changes with potential to influence minor or technical changes to the OPEP are tracked in management of change records and incorporated during internal updates of the OPEP or EP revisions.

7.2.9 Management of safety and environment critical element technical performance standards and management system performance standards

7.2.9.1 Management system performance standards

Woodside ensures safety-critical management processes function as required by applying Management System Performance Standards (MSPS). MSPS are developed and owned at a non-facility-specific level (i.e. across Woodside) and include assurance checks for the key requirements of the applicable management system.

Individual facilities demonstrate conformance against the MSPS when conducting reviews. Non-conformances against an MSPS are internally managed in accordance with the WMS.

7.2.9.2 Safety and environment critical element technical performance standards

An SCE is defined by Woodside as a hardware barrier, the failure of which could cause or contribute substantially to, or the purpose of which is to prevent or limit the effect of, an MAE/MEE, or process safety event.

Woodside identifies/develops, implements, monitors/assures, responds and verifies/optimises SCEs by applying SCE technical Performance Standards and the Management of Hardware Controls in the Operate Phase Procedure. Response to an SCE failure is managed by the Control of Operational Risk Procedure. Key elements of the three procedures are summarised in Table 7-3.

Table 7-3: Safety and environment critical element management procedure summary

Identify/Develop	**Management of Hardware Controls in the Operate Phase Procedure.** **Identify SCE** – SCEs must be identified from the facilities PSRAs (e.g. Formal Safety Assessments) (Section 2.2). The identification of SCEs for which Performance Standards are required are part of the formal safety and environmental risk assessment processes. Woodside's Global Performance Standards (based on industry and Woodside Standards) should be used for preliminary selection of SCEs. **Complete Engineering Design Studies** – Engineering design studies must be completed to demonstrate that SCE Performance Criteria specified in the global Performance Standard and/or determined by PSRA will be met by the facility design, allowing for normal SCE degradation in operation. The studies must establiPs sh the testing and inspection tasks required to assess performance against the criteria. The scope and frequency of SCE Assurance Tasks are guided by the Global Performance Standard and may require designated Engineering Design Studies. Studies should include Reliability Centred Maintenance, Risk Based Inspection and Safety Instrumented Function studies to determine the Assurance Task scope and frequencies, RBI plans, and classification and implementation requirements for instrumented safeguarding. **Develop Performance Standards** – Facilities must develop Performance Standards for all SCEs by: • selecting the applicable Global Performance Standard (including Assurance Tasks) • considering facility specific requirements and applicable regulatory requirements • adding the specific data from the facility Engineering Design Studies and PSRA to compile scope and frequency of SCE assurance activities.
Implement	**Management of Hardware Controls in the Operate Phase Procedure** **Identify SCE in Asset Register** – SCEs must be uniquely identified on the asset register and assigned Performance Standard flags. **Develop Testing, Inspection and Maintenance Programs** – SCE assurance tasks are developed into maintenance procedures. **Implement Testing, Inspection and Maintenance Programs** – SCE testing, inspection and maintenance requirements must be implemented in the CMMS (Section 7.2.1.2).
Maintain/Assure	**Management of Hardware Controls in the Operate Phase Procedure** **Execute Testing, Inspection and Maintenance Programs** – On completion of SCE assurance tasks, results must be recorded with all relevant detail, assessed for conformance with the Performance Criteria and any follow-on correction work identified. **Conduct Fitness for Service (FFS) Assessment** – In some instances, an engineering FFS assessment may be required to determine whether equipment has failed its performance standard requirements; e.g., assessment of corrosion defects following inspection of piping. Detailed results of FFS assessment may be recorded out of CMMS. **Manage and Analyse Results** – The results from assurance tasks must be accurately recorded to support data analysis. Analysis will enable appropriate action to be taken to minimise future failure recurrences, and enable assessment of overall system performance and reliability to verify SCE effectiveness.
Respond	**Control of Operational Risk Procedure** **Respond to SCE Failure** – SCE failure (technical Performance Standard non-conformance) is a failure to achieve the given Performance Criteria. SCE failures must be managed in accordance with a structured review process. This process may require the application of the facility MOPO which provides prescriptive guidelines to be followed in the event of a reduction in the performance of an SCE, or managed in accordance with the Control of Operational Risk Procedure. **Management of Hardware Controls in the Operate Phase Procedure** **Report Internally** – SCC failures that cause failure to meet the facility Performance Standard must be reported to the Event Reporting database and investigated in accordance with the Health Safety and Environment Event Reporting and Investigation Procedure. Report Externally – Failure to meet the facility PS may require external regulatory reporting. External notification must be in accordance with the Regulatory Compliance Management Procedure and the associated guidance in the Regulator Event Reporting - Western Australia - Guideline and the Regulator Event Reporting - Commonwealth of Australia - Guideline

Verify/Optimise	**Management of Hardware Controls in the Operate Phase Procedure** **Review SCE Performance** – SCE performance reviews must be conducted to ensure requirements for maintaining SCE performance are being met. **Manage Change** – Any change to the Performance Standards must be conducted in accordance with the MoC Procedure (Section 7.2.8).

SCE technical performance standards are statements of the performance required of an SCE (e.g. functionality, availability, reliability, survivability), which is used as the basis for establishing agreed assurance tasks and managing the hazard. An assurance task is an activity carried out by the operator to confirm that the SCE meets, or will meet, its SCE technical performance standard. Examples of assurance tasks include inspection routines, maintenance activities, test routines, instrumentation calibration and reliability monitoring.

These assurance tasks are identified in the CMMS, flagged against their associated technical performance standard, and given the appropriate priority (defined as 'critical work'). Management systems are in place to manage the completion of maintenance.

Events where the SCCs/SCEs have not met their specified performance criteria must be managed in accordance with a structured review process. This process may require applying the facility MOPO, which provides prescriptive guidelines to be followed if the performance of an SCE is reduced in specific defined circumstances; or, if the MOPO does not cover the event, according to procedures for assessing and managing operational risk.

Internal notification of SCE failures must be made in accordance with maintenance management workflows. Failures to meet a facility performance standard occur where SCE events lead to the functional objectives (goal or key requirement statements) of the facility performance standard for the SCE not being met (i.e. lost or unavailable), considering any redundancy inherent within the SCE. These events are reported in the Event Reporting Database as potential SCE Failure to Meet a Facility Performance Standard events.

These are internally reported as Hazard Events. Where 'Failure to Meet a Facility Performance Standard' leads to a loss of hydrocarbon containment, or a release of energy, it is internally reported (and externally where relevant) as a Loss of Primary Containment or Environmental Spill event, depending on the nature of the release.

Additionally, confirmed 'Failure to Meet a Facility Performance Standard' events for the SCEs identified in the MEE bowties may equate to a breach of EPOs and/or EPSs. The review to identify such events for external reporting considers whether the hazard event is relevant to environmental SCE functional objectives (goal or key requirements) of the SCE Facility Performance Standard and whether the event poses a risk to achieving EPOs and EPSs. The WMS Regulator Event Reporting Guideline provides additional information regarding external SCE-related reporting obligations.

There may also be planned changes/deviations from SCE technical performance standards. These are managed via procedures for assessing and managing operational risk, and endorsed in accordance with the engineering management procedures (described further within Section 7.2.8). This management process ensures risks (including environment) are managed so that the planned change/deviation does not result in unacceptable impact or risk, remains ALARP and regulatory requirements are met.

An additional class of SCE exists to capture environment critical emissions monitoring and control equipment and is also managed under this process. The 'P31 technical Performance Standard – Environmental Emissions Monitoring and Controls' includes equipment required to comply with environmental legislation, Regulations, approval conditions or requirements which apply to the facility although not specifically required under the MEE bowtie analysis and SCE groupings.

The scope of P31 includes equipment such as that to maintain and monitor flare ignition, flow metering, and discharge quality of PW. P31 sets out key performance requirements for applicable equipment to meet regulatory requirements as appropriate to the reporting methods (e.g. GERs Determination and NPI), and meet the functional intent of the system that the equipment supports (e.g. ensuring flare systems can be ignited, with monitoring in place to ensure the flare/pilots are lit). P31 also defines maintenance/assurance

tasks for associated equipment (SCC), and is used to support change management, prioritisation and governance.

7.3 Woodside decommissioning framework

Decommissioning is a planned activity for the offshore oil and gas industry. Current best practice is for decommissioning to include:

- designing for decommissioning during the development phase of projects/facilities
- removing property, equipment and infrastructure, such as a facility or a pipeline, and plugging wells associated with a Petroleum Activity
- assessing decommissioning options and opportunities during the operational life of the facility leading up to cessation of production
- selecting, developing and planning the selected decommissioning option
- executing decommissioning plans
- restoring the marine environment.

This is aligned with Section 572 (3) of the OPGGS Act, which requires titleholders to remove property from the title area when it is neither used, nor to be used, in connection with the operations. Section 572 (7) and section 270 (3) of the OPGGS Act provide scope for in situ decommissioning or other arrangements to be made where it can be demonstrated that the risks and impacts are ALARP and acceptable. If complete removal or other arrangements for decommissioning are planned, the proposed alternative presented in an EP must comply with all other Acts and legislation.

7.3.1 Decommissioning in operations

Asset specific decommissioning plans are typically developed prior to cessation of production (CoP). Planning includes redundant infrastructure as well as structures coming to the end of production and decommissioning critical systems to enable removal. Appropriate maintenance plans are developed and implemented so that decommissioning critical systems meet the requirements to facilitate removal

7.3.2 Decommissioning planning

Decommissioning planning generally commences two (2) to 10 years before ceasing production (Figure 7-7). The timeframe selected for decommissioning planning depends on the complexity of the facility and infrastructure requiring decommissioning.

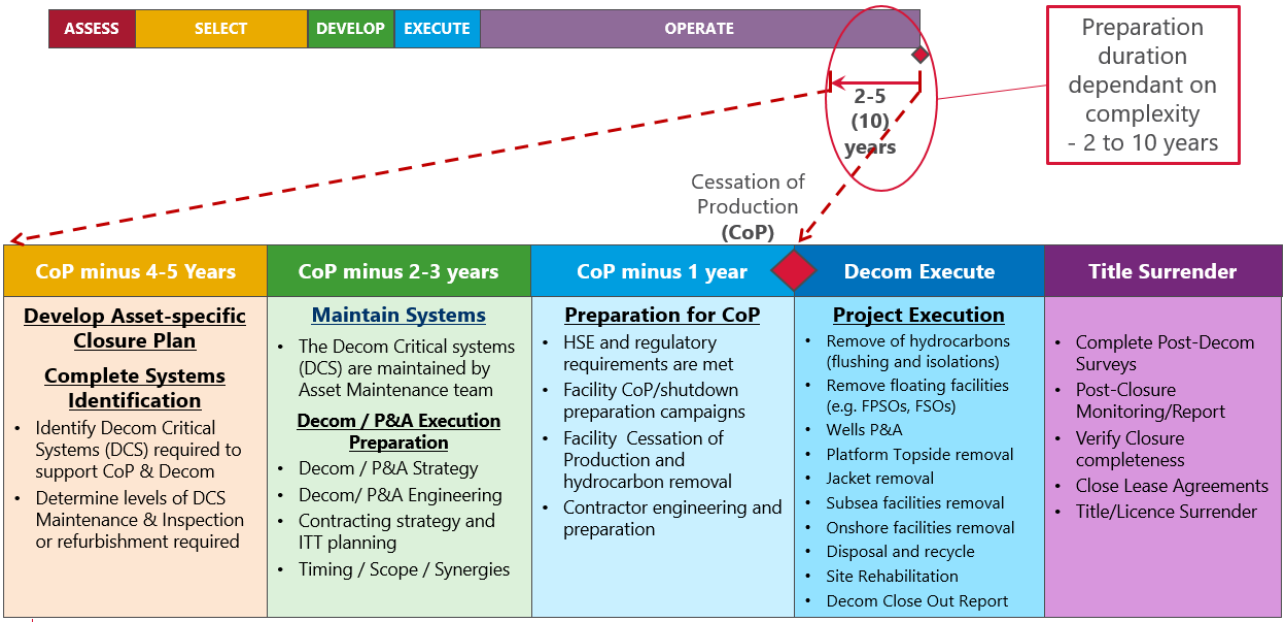

Figure 7-7: Woodside's process for decommissioning planning

7.3.3 Inventory of property within the Petroleum Activity

An inventory of property located within the Petroleum Activity in petroleum title WA-9-L, WA-11-L, WA-16-L and associated pipeline license (WA-4-PL) in Commonwealth water is provided in Section 3.5.6. in Table 7-4 presents the decommissioning phase of inventory associated with the Petroleum Activity.

Property inventories are maintained for all Woodside assets and updated with any additional property brought into the field in accordance with the asset management system.

There are currently four historical exploration wells included in the title areas which are managed under a separate EP (refer to Section 3.5.6).

Table 7-4: Decommissioning phase of inventory associated with the Petroleum Activity

Item	Description	Status	Decommissioning Phase
Surface infrastructure	FPSO	Operational	Not yet applicable, refer to Section 7.3.4.3.
	RTM	Operational	Not yet applicable, refer to Section 7.3.4.3.
Subsea Wells	Production wells (detailed in Table 3-3)	Operational	Not yet applicable, refer to Section 7.3.4.3.
		Redundant	Redundant wells are continuously monitored and considered for opportunity of progressive P&A. Refer to Section 7.3.4.1.
Subsea Infrastructure	Detailed in Table 3-5 and Table 3-6	Operational	Not yet applicable, refer to Section 7.3.4.3.
		Redundant - flushed clean of hydrocarbons and preserved for wet-storing.	Not yet applicable, refer to Section 7.3.4.2. RBI is in place to manage integrity of the wet-parked equipment.

7.3.4 Okha decommissioning strategy

Cessation of production (CoP) for the Petroleum Activity is estimated to be 2031, however, the CoP could change based on production forecasting; thus, the CoP-date will be continuously monitored, and the timing of the planned decommissioning activities will be adjusted accordingly.

Decommissioning of the Okha asset is being undertaken in two phases:

- Planning for decommissioning
- Execute decommissioning.

Woodside adopts a risk-based approach to the planning and execution of decommissioning of the property.

At a high level, the plan for decommissioning consists of:

- Flush flowlines and the subsea infrastructure following CoP.
- Following flushing and cleaning of the subsea equipment to ALARP disconnect and remove the FPSO and the RTM (Riser Turret Mooring) system out of the field for disposal or divestment.
- Permanent P&A (plugging and abandonment) of wells, removal of trees, wellheads, flexible flowlines, mooring lines and the other subsea equipment (e.g. manifolds, valve stations, umbilical etc.).

In line with Woodside's decommissioning planning process outlined above, an Asset Closure Management Plan has been prepared for the Okha asset.

During CoP activities, emissions and discharges are anticipated to occur. For example, there may potentially be emissions and discharges associated with additional vessel activity, pigging or cleaning of flowlines, and flushing and preservation of subsea equipment. Relevant emissions and discharges will be described in an EP that covers cessation of production activities. The risks and impacts outlined in this EP remain the same as steady-state operations.

The timing of the main activities related to decommissioning planning and execution are subject to change as planning develops and specific decommissioning requirements are defined, however, the current estimated schedule is presented in Figure 7-8 below.

The subsequent Define/FEED phase works will further develop and optimise the strategy, scope, and the further define the schedule for decommissioning of the asset.

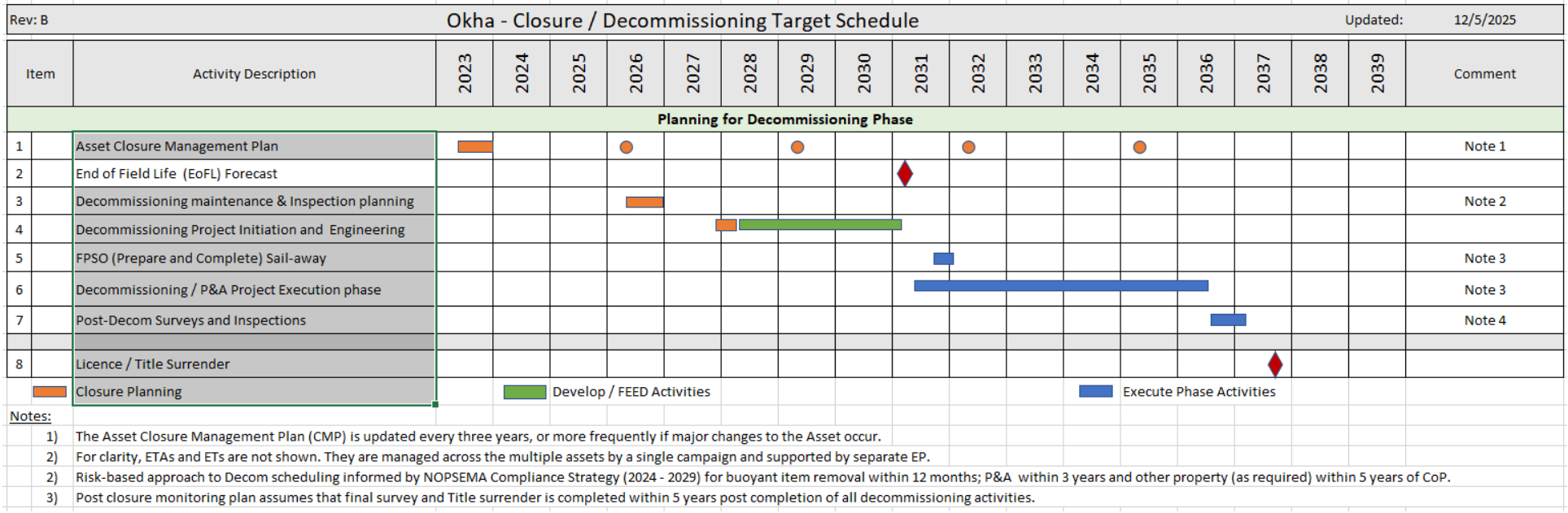

Figure 7-8: Okha operations decommissioning target schedule

7.3.4.1 Redundant production wells

The redundant wells associated with the Petroleum Activity (refer to Table 3-4) will remain in the Operate Phase until permanent abandonment and will continue to be managed under the provisions and arrangements described in the Okha WOMP.

Redundant wells are managed under a late life well management plan so that well integrity is maintained and the risk of loss of containment is ALARP. Redundant wells are recorded in the asset closure management plan.

7.3.4.2 Redundant subsea infrastructure

A number of subsea items have been wet stored/redundant (refer to Table 3-5 and Table 3-6). Redundant infrastructure includes approximately 21 km of redundant flowlines which have been physically disconnected from the producing system. Before flowlines are disconnected and wet stored, they are flushed to reduce the concentration of hydrocarbons within them to ALARP and then filled with preservation fluid. The rate of degradation of the redundant flowlines has been assessed to be minor and as such normal field removal techniques could be applied as part of field decommissioning.

For the redundant equipment, removal of property throughout the operational life is not considered to be ALARP for the following reasons:

- Redundant equipment is incorporated within or located in close proximity to live infrastructure which introduces additional complexities and HSE risk that can be avoided during decommissioning at EOFL.
- While subsea equipment is in-situ, risks and impacts to other marine users are considered to be low.
- Redundant subsea infrastructure is being maintained in accordance with an RBI process described in Section 3.7. RBI preserves infrastructure to ensure integrity and retrieval options are maintained for full removal. Redundant equipment is managed under the same RBI process as the equipment that is still operational. The RBI includes redundant equipment post EOFL demonstrating consideration for IMMR activities until equipment removal.
- The environmental risks and impacts when leaving redundant infrastructure in-situ under current operations is considered to be low.

7.3.4.3 Production Infrastructure

As reflected in Figure 7-7, planning commences ahead CoP and consists of desktop studies and engineering design, that leverages data from inspections and other activities undertaken during IMMR scopes within the scope of the Petroleum Activity (refer to Section 3.7).

During the decommissioning planning phase all infrastructure, including suspended infrastructure, will be managed and maintained within the scope of this EP to meet Woodside's obligations under Section 572.

Decommissioning execution activities are expected to adopt a risk-based approach that is informed by NOPSEMA Decommissioning Compliance Strategy 2024-2029 (NOPSEMA, 2023).

7.3.5 Title Relinquishment

Woodside proposes to collect the necessary data to inform future title surrender requirements through a baseline environmental monitoring campaign. The baseline environmental monitoring campaign will assess any impact from emissions and discharges over the life of the activity. The results of the baseline sampling will be assessed in a future subsea decommissioning EP and used to inform future title surrender requirements.

The final decommissioning EP will outline any additional environmental monitoring required at the conclusion of all equipment removal activities. At title relinquishment, Woodside will submit a report to NOPSEMA demonstrating that the requirements of Section 270 of the OPGGS Act have been met. This demonstration will consider a range of environmental information, including data collected following the completion of equipment decommissioning.

7.4 Organisation structure

The following Woodside organisational structure provides leadership and direction for operation of the facility and environmental performance:

- The Executive Vice President (EVP) and Chief Operations Officer (COO) Australia reports to the Chief Executive Officer (CEO).
- The VP FPSOs reports to the EVP & COO Australia.
- The Asset Manager reports to the VP FPSOs.
- The Reliability & Integrity Manager reports to the VP FPSOs.
- The functional support teams report to the corresponding Business Unit.
- All production facilities are supported by a team of environmental professionals who report to the Production Environment Manager.

All facilities are supported by other Woodside functional teams, including:

- **HSE** – provides specific guidance and access to specialist HSE resources including assistance for governance and training, as well as guidance on Woodside HSE standards
- **Subsea** – responsible for the installation and IMMR activities on subsea infrastructure including facility structures, flowlines, manifolds and subsea isolation valves to ensure integrity
- **Global Wells and Seismic** – ensures the safe planning and execution of drilling, completion and work over operations
- **Projects** – responsible for the engineering, construction and execution of small projects on operational facilities to ensure ongoing integrity and safe operation. The Closure Planning Team and the Decommissioning Delivery Team are part to the Projects, and this ensure that planning and execution of the Asset's decommissioning activities are seamless.
- **Marine Group** – responsible for chartering vessels to support Woodside's offshore production facilities including vessels to aid emergency response
- **Aviation Group** – provides personnel transport, material transport, emergency evacuation and search and rescue capabilities.

7.5 Roles and responsibilities

Key roles and responsibilities for Woodside and contractor personnel relating to implementing, managing and reviewing this EP are described in Table 7-5. Roles and responsibilities for oil spill preparation and response are outlined in Appendix H (Oil Pollution First Strike Plan) and the Woodside Incident Management Handbook. It is the responsibility of Woodside and contractors to implement Woodside's corporate Health, Safety and Environment Policy (Appendix A) in their areas of responsibility and to ensure the personnel are suitably trained and competent in their respective roles.

Table 7-5: Roles and responsibilities

Title (role)	Environmental responsibilities
All personnel	
All facility-based personnel and onshore support personnel	• Understand the Woodside standards and procedures that apply to their area of work. • Understand the environmental risks and control measures that apply to their area of work. • Carry out assigned activities in accordance with approved procedures and the EP. • Follow instructions from relevant supervisor with respect to environmental protection. • Cease operations which are deemed to present an unacceptable risk to the environment. • Participate in environmental assurance activities and inspections as required. • Prompt reporting of environmental hazards/incidents to their supervisor and assist in event investigation. • Attend HSE meetings, training and drills when required.
Office-based personnel	
Asset Manager	• Accountable for ensuring all necessary regulatory approvals are in place to operate. • Approve (decide on) the content to be contained in the Environment Plan. • Accountable for managing the asset throughout its operations in accordance with legislative/regulatory requirements (including this EP) and WMS requirements. • Approve written notification to regulatory authorities (for example notifications to NOPSEMA under this Environment Plan). • Agree facility key performance indicators (KPIs), including environment KPIs, and accountable for their achievement. • Accountable for incident notification, reporting and investigation in line with regulatory requirements, the WMS and EP requirements. • Decide on technical decisions where required based on assessed current level of risk. • Responsible for continuous improvement of operations of the facility, including environmental performance.
Asset Superintendent	• Responsible for the operation of the facility in accordance with legislative/regulatory requirements (including this EP) and the WMS. • Accountable for aspects of integrity management. • Accountable for conformance to production Operations processes including ISSoW. • Decide on technical decisions where required based on assessed current level of risk. • Communicate changes relevant to the EP to the Production Environment team.

Title (role)	Environmental responsibilities
Reliability and Integrity Manager	• Steward of Reliability and Integrity for the business unit. • Lead a team that expertly ensures that strategies for equipment maintenance and operation are set to meet Reliability, Performance and Integrity goals. • Ensuring that the Safety Case, Performance Standard, Regulatory and Reliability driven maintenance tasks for all equipment are known and implemented in the most efficient maintenance strategy possible. • Ensuring that Very High and Severe risks are assessed and controlled when they appear, and that the right technical expertise, including technical authorities, is engaged to understand, communicate and manage the risk, as part of the 'Agree' role in the Engineering Management Procedure. • Ensuring that refresh of facility baseline risk assessments is completed upon trigger of re-assessment. • Assuring that reliability and integrity delivery processes in the assets is being done to correct standard and engaging with relevant process owners.
Technical Support Lead	• Responsible for safeguarding process safety with respect to the asset. • Ensure technical integrity risks are identified, managed and reduced to ALARP. • Recommend technical decisions where required based on assessed current level of risk.
Integrity Authorities (Technical Integrity Custodians, Technical Authorities and Engineering Authorities)	• Agree technical integrity decision based on assessed current level of risk • Undertake process safety responsibilities as defined under the Woodside process safety framework
Environment Adviser Australian Operations	• Manage change relevant to the EP in accordance with the regulations and the EP. • Ensure environmental monitoring, offshore inspections, and reporting is undertaken as per the requirements of this EP. • Coordinate and monitor closeout of corrective actions. • Ensure environmental inspections/audits are undertaken as per the requirements of the EP. • Ensure environmental incident reporting meets regulatory requirements (as described within the EP) and WMS.
Subsea and Pipelines (IMMR) Activity Manager	• Ensure IMMR activities undertaken in line with EP commitments. • Manage IMMR change requests for the activity and notify the Production Environment Adviser of any scope changes in a timely manner. • Provide sufficient resources to implement the EP requirements. • Monitor and close out corrective actions raised from IMMR environmental inspections/audits or incidents. • Responsible for governance of IMMR related activities of subsea support vessels.

Title (role)	Environmental responsibilities
Corporate Affairs Adviser	• Prepare and implement the Consultation Plan for the Petroleum Activities Program. • Report on consultation. • Perform ongoing liaison and notification as required as per Section 7.9.
Woodside Marine Services Function	• Conduct relevant audit and inspection to confirm vessels comply with relevant Marine Orders and Woodside Marine Charters Instructions requirements to meet safety, navigation and emergency response requirements
Woodside CIMT Deputy Incident Commander	• On receiving notification of an incident, the Woodside CIMT Deputy Incident Commander shall: – establish and take control of the IMT and establish an appropriate command structure for the incident – assess situation, identify risks and actions to minimise the risk – communicate incident progress to relevant persons within the organisation – develop the incident action plan (IAP) including setting objectives for action – approve, implement and manage the IAP – communicate within and beyond the incident management structure • manage and review safety of responders – address the broader public safety considerations – conclude and review activities.
Contractor Sponsors	• Ensure implementation of EP for the contractor's scope of work. • Ensure contractors have adequate environmental capability to execute their respective scopes of work. • Review contractor environmental performance as required.
Offshore-based personnel	

Title (role)	Environmental responsibilities
Offshore Installation Manager	• In charge of the facility and the field. • Accountable for implementation of the EP at the facility. • Ensure offshore personnel comply with regulatory/legislative requirements (including the EP) and the WMS. • Responsible for Area Operations compliance with Technical Integrity requirements including Management of Change process, Permit to Work process and MOPO and process safety requirements. • Single point responsible person for coordination of simultaneous activities. • Accountable for the performance and development of direct reports, ensuring operator capability and competency across all shifts and ensuring the skill requirements of the Production Division are being met. • Implement relevant offshore environment initiatives and review environmental performance to drive continuous improvement. • Ensure effective communication with workforce on environmental performance. • Ensure incidents are reported and investigated in line with WMS and EP requirements, with appropriate actions initiated and closed out. • Lead response efforts (as Incident Controller) in managing emergency or crisis scenarios. • Ensure exercises and drills are conducted in a manner to assure the facility's ability to respond effectively to an emergency. • Decide on technical decisions where required based on assessed current level of risk. • Communicate changes relevant to the EP to the Environment team.
Operations Supervisor/ Operations Team Leader/ Maintenance Team Leader/ Shift Supervisor	• Accountable for the day-to-day operations of the facility including effective shift handover; completion and logging of operator routine. • Responsible for operations shift compliance to all legislative and regulatory requirements as defined in the EP. • Responsible for permitting and isolation for all frontline work activities. • Responsible for following emergency response protocols in accordance with the emergency response procedure and fulfilling allocated emergency response roles. • Responsible for leading and coordinating a multi-disciplined team performing specific duties required to support the facility, including helicopter operations, vessel movements and consumable controls.

Title (role)	Environmental responsibilities
Operations and Maintenance Technicians	• Responsible for all daily operations on the facility within their operational control. • Undertake daily operational and maintenance tasks in accordance with approved standards and procedures to ensure compliance with the EP. • Manage day-to-day environmental risks through use of iSSoW and other risk management tools. • Identify opportunities for continuous improvement and communicate these to their Supervisor. • Complete training requirements to maintain competence and knowledge in operating and maintaining equipment and manage environmental risks and impacts. • Participate in environmental assurance activities and inspections as required. • Report all environmental hazards and incidents and assist in investigations.
Health, Safety and Environment Coordinator/Advisor	• Liaise with managers/supervisors on day-to-day management of environmental risks and issues. • Assist in the ongoing promotion of environmental performance at the facilities and day-to-day management of HSE risks and issues. • Support operational personnel to understand the EP requirements applicable to their role. • Identify opportunities for continuous improvement and communicate these to the OIM and Environment Team. • Implement environmental improvement plans. • Communicate environmental performance information and training material to offshore personnel and maintain associated records.
Vessel-based personnel	
Vessel Master	• Understand and manage HSE aspects of the vessel, including environmental requirements. • Communicate with OIM as required regarding potential environmental risks applicable to vessel activities. • Ensure vessel meets quarantine requirements. • Notify AMSA and other authorities of any incidents as per maritime requirements. • Provide, as requested by Woodside, copies of documents, records, reports and certifications (i.e. fuel use, ballast exchanges, waste logs, etc.) in a timely manner to assist in compliance reporting. • Ensure the vessel's Emergency Response Team has sufficient training to implement the vessel's SOPEP. • Ensure all emergency and SOPEP drills are conducted. • Ensure vessel procedures are followed in the event of an emergency or spill. • Immediately notify the Woodside Representative of any environmental incidents.
Vessel Logistics Coordinators	• Ensure waste is managed on the relevant support vessels or installation vessel and sent to shore as per the relevant Waste Management Plan.

Title (role)	Environmental responsibilities
Subsea and Pipelines Site Woodside Representative	• Ensure relevant management measures in this EP are implemented on the subsea support vessel. • Ensure periodic environmental inspections are completed. • Ensure environmental incidents or breaches of EPOs, EPSs or MCs are reported in accordance with Woodside and regulatory requirements. • Ensure Subsea Support Vessel induction attendance is recorded.

7.6 Training and competency

7.6.1 Overview

Woodside, as part of its contracting process, assesses a proposed contractor's environmental management systems to determine the level of compliance with the standard AS/NZ ISO 14001. This assessment is performed for the Petroleum Activity as part of the pre-mobilisation process. The assessment determines whether there is a clearly defined organisational structure that sets out the roles and responsibilities for key positions. The assessment also assesses whether there is an up-to-date training matrix that defines any corporate and site/activity-specific environmental training and competency requirements.

As a minimum, environmental awareness training is required for all personnel, detailing awareness and compliance with the contractor's environmental policy and environmental management system.

7.6.2 Inductions

Inductions are mandatory for all personnel prior to mobilisation to their activity location (e.g., contractors and Company representatives). The induction covers the HSE requirements and environmental information specific to the activity location.

The Petroleum Activity induction may cover information about:

- Description of the activity;
- Ecological and socio-economic values of the activity location (including underwater cultural heritage);
- Regulations relevant to the activity;
- Woodside's Environmental Management System – Health, Safety and Environment Policy;
- EP importance/structure/implementation/roles and responsibilities;
- Main environmental aspects/hazards and potential environmental impacts and related performance outcomes;
- Oil spill preparedness and response;
- Monitoring and reporting on performance outcomes and standards using MC;
- Incident reporting;
- Inductions for offshore facility workers and visitors;
- Operations competency framework training;
- Permit to work training (ISSoW);
- Production environmental leadership training and environment awareness training;
- Emergency and hydrocarbon spill response training;
- Inductions for subsea IMMR (vessel based) personnel; and
- Unexpected Finds Procedure and reporting requirements (Section 7.2.6).

Records for Woodside operations personnel, in relation to the above-listed training, are maintained in Woodside's Learning Management System. Contractor training records are maintained in the Contractor Verification platform.

Competence of operations personnel can be reviewed via online dashboards.

7.6.3 Petroleum Activity-specific environmental awareness

Before the Petroleum Activity begins, a pre-activity meeting will be held on-board the facility and support vessels with all relevant personnel. The pre-activity meeting provides an opportunity to reiterate specific environmental sensitivities or commitments associated with the activity. Relevant sections of the pre-activity

meeting will also be communicated through to the support vessel personnel. Attendance lists are recorded and retained.

During operations, regular HSE meetings will be held on the facility and support vessels which cover all crew. During these meetings, recent environmental incidents are regularly reviewed, and awareness material presented.

7.6.4 Inductions for offshore facility workers and visitors

A comprehensive induction process is in place for personnel working on or visiting Woodside's offshore production facilities. The induction process is designed to equip personnel with the HSE awareness and skills necessary for them to manage their own safety and environmental performance and contribute to others working around them. The induction process includes:

- **Common Production Induction** – All employees and contractors who have not accessed a production facility within 12 months are required to undertake this induction prior to mobilisation. It includes Woodside's values, HSEQ and Process Safety, continuous improvement and risk management.
- **ISSoW** - All members of the workforce that are required to work with ISSoW receive training commensurate with the level of authority and responsibility they hold in ISSoW.
- **Facility Specific Induction** – All employees and contractors that have not accessed the production facility within twelve months are required to undertake this induction before or upon arrival at the facility. This induction covers the HSE and emergency response issues specific to each facility.
- **Production Offshore Environmental Leadership Training** – Key operations leadership roles (as specified within the Operations Competency Framework) are required to complete this competency on commencement of the new role and three yearly thereafter. The training covers Woodside's policies and standards, environmental legislative requirements, the EP, key environmental risk and impacts, environmental reporting, environmental management tools (e.g., improvement planning, compliance reviews and audits), hydrocarbon spill response and environmental accountabilities.
- **Production Offshore Environmental Awareness Training** – All new offshore operational personnel are required to undertake this online training on commencement of the new role and two yearly thereafter. This training covers environmental legislative requirements, the facility EP, key environmental hazards and control measures (including waste management, spill prevention, chemical storage, wildlife interactions as well as other relevant environmental aspects), environmental management tools, hazard and incident reporting, spill response, and environmental responsibilities.

7.6.5 Operations competency framework training

The Operations Competency Guideline outlines the requirements for competency and proficiency within the Australian Operations Division and informs individuals of their roles and responsibilities to ensure safe, reliable, and efficient operations. By doing this, the potential for unplanned (accident/incident) type events that could result in environmental impact is minimised.

Operational Area Licence to Operate (LTO) roles are those roles related to oil and gas processing, equipment maintenance, marine regulations, emergency response and any other roles involved with safeguarding the facility integrity, including all roles where high-risk work licences are required.

The requisite competency and training for each LTO role has been defined. Competencies for these LTO roles are stipulated by the governance group for each respective position and are based on the relevant Australian or International standards which apply. In cases where no Australian or International standards are available or applicable, training is based on the relevant Woodside Standard as determined by the respective governance group.

Contractors working on Woodside facilities are required to verify the competency of their personnel through the contractor's own verification systems. Additionally, contractor personnel working on Woodside facilities are required to be registered in Woodside's Contractor Verification Service (CVS) beforehand. Personnel registered in CVS have had their skills and qualifications independently verified on behalf of Woodside thereby confirming that contractor personnel hold the required competencies before mobilisation to the facility.

The Woodside Competency Reporting Dashboard provides the conformance status of the facility against the LTO roles requirements.

7.6.6 Permit to work system training

The ISSoW permit to work (i.e., participation in crisis or emergency management exercises). Roles based training is further described in Section 7.11.

An overview of Woodside's hydrocarbon spill response training and competency requirements are provided in dashboards for key responder roles. The roles are consistent with Woodside's crisis and emergency management incident control structure system (see Section 7.2.1) is a key element in ensuring that all necessary steps are taken to ensure the safety of personnel, protection of the environment and technical integrity of the facility. The ISSoW system takes a risk-based approach to all activities, thus tasks with higher levels of risk are subjected to greater scrutiny and control.

All members of the workforce that are required to work with ISSoW (Section 7.2.1) receive training commensurate with the level of authority and responsibility they hold in ISSoW.

7.6.7 Emergency and hydrocarbon spill response training

All operations personnel involved in crisis and emergency management are required to commit to ongoing training, process improvement and participation in emergency and crisis response (both real and simulated), including emergency drills specific to potential incidents at the facility. Training includes task specific training and role-based training and 'on the job' experience.

Woodside Hydrocarbon Spill Preparedness Advisor(s) are responsible for maintaining hydrocarbon spill preparedness competency. This includes the identification and development of approved competency and non-competency-based courses, identification of relevant personnel required to undertake training and ensuring training records are maintained. Minimum Woodside capabilities will continue to be identified and documented.

7.6.8 Subsea inspection, monitoring, maintenance and repair activity environmental awareness

At the beginning of, and during a new Subsea IMMR activity, the Subsea Support/IMMR Vessel crew including contractor crew, Woodside representatives and other relevant personnel are required to undertake a vessel induction before commencing work. This induction covers HSE requirements for the vessel and IMMR activities, and as required environmental information specific to the activity location. The induction may cover the following environmental information:

- Adherence to standards and procedures, and the use of Job Safety Analysis and permit to work hazard identification and management process;
- Spill management including prevention, response and clean-up, location of spill kits and reporting requirements;
- Waste management requirements and location of bins;
- Reporting of marine fauna, location of forms and charts; and
- Chemical management requirements.

All personnel who undertake the project induction are required to sign an attendance sheet which is retained.

Regular HSE meetings are held on subsea support vessels with crew. During these meetings, any environmental incidents are reviewed, and environmental awareness material presented.

7.6.9 Management of training requirements

All personnel on the facility and support vessels are required to be competent to perform their assigned positions. This may be in the form of external or 'on the job' training. The vessel Safety Training Coordinator (or equivalent) is responsible for identifying training needs, keeping records of training performed and identifying minimum training requirements.

7.7 Monitoring, auditing, and managing non-conformance and review

Regulation 22(5) states that the implementation strategy is to provide for the monitoring, audit, management of non-conformance and review of operator's environmental performance and the implementation strategy itself.

This section of the EP outlines the measures undertaken by Woodside to regularly monitor the management of environmental risks and impacts of the facility against the EPOs, EPSs and MC, with a view to continuous improvement of environmental performance. The effectiveness of the implementation strategy is also reviewed periodically as part of the monitoring and assurance process

7.7.1 Monitoring

Woodside and its contractors will perform a program of periodic monitoring during the Petroleum Activities Program – starting at mobilisation of each activity and continuing through the duration of each activity to activity completion. This information will be collected using the tools and systems outlined below, developed based on the EPOs, controls, standards and MC in this EP. The tools and systems will collect, as a minimum, the data (evidence) referred to in the MC in Section 6 and Appendix G.

The collection of this data will form part of the permanent record of compliance maintained by Woodside and will form the basis for demonstrating that the EPOs and standards are met, which will be summarised in a series of routine reporting documents.

7.7.1.1 Source-based impacts and risks

The tools and systems to monitor environmental performance, where relevant, will include:

- daily reports that include leading indicator compliance
- periodic review of waste management and recycling records
- use of contractor's risk identification program that requires recording and submitting safety and environment risk observation cards routinely (frequency varies with contractor)
- collection of evidence of compliance with the controls detailed in the EP relevant to offshore activities by the Woodside Offshore HSE Adviser (other compliance evidence is collected onshore)
- environmental discharge reports that record volumes of planned and unplanned discharges downhole (in the well), to ocean and atmosphere
- monitoring of progress against the Global Wells and Seismic function and Operations Division scorecards for KPIs
- internal auditing and assurance program as described in Section 7.7.2.

Throughout this activity, Woodside will continuously identify new source-based risks and impacts through monitoring and auditing systems and tools described above and in Section 7.7.2.

Other examples of assurance tasks implemented through the EP include (as an example):

- start of shift operator walk arounds
- permit to work hazard, risk management checklist, area sign-on, and permit audits (ISSoW – Section 7.2.1)
- Technical integrity SCE performance reviews (daily, weekly, monthly) (Section 7.6.6)
- ongoing maintenance performance assurance (e.g., conformance dashboard)
- management system performance audits reviews (e.g., MSPSs) (Section 7.7.2)
- data gathering and governance dashboard presentations (e.g., Woodside Integrated Risk and Compliance System).

7.7.1.2 Internal auditing and assurance program

A summary of monitoring and quantitative records of emissions and discharges that will be kept and used to assess environmental performance is provided in Table 7-6.

Table 7-6: Summary of emissions and discharge monitoring for the Petroleum Activity

Category	Parameter to be Monitored/Reported	Monitoring Frequency	Monitoring Equipment/Methodology	EP Reference
Planned Emissions				
Atmospheric emissions	Greenhouse, energy and criteria pollutants	Normally continuous process metering/annual reporting	NGERS and NPI reporting estimation methods (e.g. fuel/flare flow meters, throughput meters, process estimation)	Section 6.6.7
	Fuel gas and flare intensity	Normally continuous process metering/monthly reviews	Fuel and flare flowmeters inform intensity profiles – tracked against optimisation targets	Section 6.6.7
Planned Discharges				
Discharge of subsea control fluids during well actuations	Subsea control fluid consumption	Normally continuous process indication/monthly review	Subsea control fluid consumption surveillance. Process indication for gross leaks/ruptures	Section 6.6.4
Discharge of hydrocarbons and chemicals during subsea IMMR activities	Volumes of hydrocarbons and chemicals released subsea	As required, during IMMR activities (activity specific)	Estimates based on known volumes pumped and ROV observation	Section 6.6.4
Discharge of produced water	Volume discharged overboard	Normally continuous process indication/monthly review	PW flow meter(s), process estimation	Section 6.6.5
	OIW concentration of discharged PW	Normally continuous process indication/monthly review	Normally continuous process metering/monthly review	
	Chemical characterisation	Annually	Characterisation of end of pipe sample	
	WET testing	Three yearly	PW ecotoxicity testing	
Waste recycling and disposal	Quantities of solid and liquid wastes disposed of onshore	Ongoing	Facility and vessel waste manifest	Section 6.7.15
Unplanned Emissions and Discharges				
Unplanned emissions and discharges	Nature of release	As required	HSE Event Reporting System (First Priority)	Section 6.6 and 6.7

7.7.1.3 Management of knowledge

Review of knowledge relevant to the existing environment is undertaken in order to identify changes relating to the understanding of the environment or legislation that supports the risk and impact assessments for EPs (in-force and in-preparation). New knowledge checks take place both routinely primarily via quarterly and annual knowledge reviews and ad hoc (as information is obtained), and encompasses the following topics:

- Environmental science – update checks conducted via desktop reviews: scientific literature, government publications and Woodside supported publications and studies relating to existing environment topics (including but not limited to species and habitats) as well as EPBC Act Matters of National Environmental Significance (Part 3) and Part 13 statutory instruments.
- Socio-economic environment and stakeholder information – update checks conducted via desktop reviews: scientific literature, government publications and Woodside consultation; and,
- Environmental legislation – monitoring of emerging regulatory changes and the subsequent management of regulatory change (as outlined in the WMS Regulatory Compliance Management Procedure).

A management of knowledge tracker is maintained to record reviews and updates. Communication of relevant new knowledge is addressed at the EP Consolidation meetings where changes in knowledge prompt a consideration of management of change, this is actioned and documented appropriately.

The frequency and documentation of reviews, communication of relevant new knowledge and consideration of management of change are documented in the WMS Environment Plan Guideline.

Any relevant new information on cultural values and heritage will be assessed using the EP Management of Change Process (refer to Section 7.2.8).

Under the Operational and Scientific Monitoring Program preparedness, an annual review and update to the environmental baseline studies database is completed and documented. Periodic location-focused environmental studies and baseline data gap analyses are completed and documented. Any subsequent studies scoped and executed as a result of such gap analysis will be updated in the baseline monitoring database.

7.7.1.4 Management of newly identified impacts and risks

New sources of receptor-based impacts and risks identified through monitoring and auditing systems and tools and the Woodside Environment Knowledge Management System are assessed using the Change Management Process (Section 7.2.8).

7.7.2 Auditing

Environmental performance auditing will be performed to:

- Identify potential new or changes to existing environmental impacts and risks, and methods for reducing those to ALARP;
- Confirm that mitigation measures detailed in this EP are effectively reducing environmental impacts and risks, are practicable and provide appropriate information to secure compliance; and
- Confirm compliance with the EPOs, Controls and EPSs detailed in this EP.

Internal auditing will be performed to cover each key project activity as summarised.

7.7.2.1 Support vessel assurance

The following internal assurance will be performed for vessel-based activities:

- A pre-mobilisation inspection/audit will be conducted by relevant personnel. The scope of the audits are risk-based and specific to the relevant activity, but will generally focus on aspects relating to ensuring appropriate understanding of environmental commitments and the operational readiness of the activity scope, including appropriate environmental controls in place. All vessels associated with identified scopes will be audited by Woodside.

- At least one operational compliance audit relevant to applicable EP commitments will be conducted by a Woodside Environment Adviser for subsea support vessels. The audit may be conducted offshore or be office-based, subject to the duration of the activity and logistics of performing the audit offshore for short duration scopes.
- Contractor-specific HSE audits will also be conducted of all support vessels. The audits will consider the implementation of HSE management, risk management, as well as pre-mobilisation and offshore readiness.
- Vessel-based HSE inspections will be conducted fortnightly by vessel HSE personnel. Each inspection will focus on a specific risk area relevant to the project activity and a formal report will be issued (for example, bunkering controls, chemical and discharge management, cetacean reporting, etc).
- Annual inspection of Woodside's long-term hire support vessels are undertaken to ensure compliance with both the EP and the approved Contractor Management system.

The internal audits and reviews, combined with the ongoing monitoring described in Section 7.7.1, and collection of data referenced in the MC are used to assess EPOs and EPSs.

As part of Woodside's EMS and/or assurances processes, activities may also be periodically selected for environmental audits as per Woodside's internal auditing process. Audit, inspection and review findings relevant to continuous improvement of environmental performance are tracked through the Environmental Commitments and Actions Register.

This Environmental Commitments and Actions Register is used to track support vessel and subsea activity compliance with EP commitments, including any findings and corrective actions.

Non-conformances identified will be reported and/or tracked in accordance with Section 7.7.3.

7.7.2.2 Operations assurance

The Provide Assurance Procedure and the Provide Assurance Guideline ensure that risks are managed while business activities are being performed. The Guideline aims to explain how the Operations Division Assurance Team implements WMS Assurance requirements, while concurrently satisfying the Operations Division's specific objectives.

Operations Assurance Assignments are contained within the Operations Division Integrated Assurance Assignment Plan.

Environmental assurance activities are conducted on a regular basis to help:

- Verify environmental risks and potential impacts are being managed in accordance with the EPOs and EPSs;
- Monitor, review and evaluate the effectiveness of the EPOs and EPSs;
- Verify effectiveness of the implementation strategy; and
- Identify potential non-conformances.

The outputs of the assurance process are corrective actions that drives continuous improvement.

7.7.2.3 Annual offshore inspection

An inspection/review of the Okha FPSO facility is undertaken every calendar year by the Production Environment Team, via either an offshore inspection or desktop review. Selected risk areas/activities are inspected to review environmental performance against the EPOs and EPSs and verify that control measures are effective in reducing the environmental risks and impacts of the activity to an ALARP and acceptable level.

The inspection also includes review of conformance with selected aspects of the EP implementation strategy. All risk sources/activities applicable to the offshore facility will be reviewed over a three-year rolling period. Records of findings and closeout of any corrective or improvement actions are maintained (closeout is tracked in Woodside's action tracking system).

7.7.2.4 Marine assurance

Woodside's marine assurance is managed by the Marine Assurance Team within the Operations Support Function in accordance with Woodside's Marine Offshore Vessel Assurance Standard. The Woodside assurance process is based on industry standards and consideration of guidelines and recommendations from recognised industry organisations such as Oil Companies International Marine Forum and International Maritime Contractors Association.

Woodside's Marine Offshore Assurance process is mandatory for all vessels (other than Tankers and Floating Production Storage and Offloading vessels) that are chartered directly by or on behalf of Woodside, including for short term hires (i.e., <3 months in duration). It defines applicable marine offshore assurance activities, ensuring all vessel are seaworthy and meet the requirements for a defined scope of work.

The process is multi-faceted and encompasses:

- Offshore Vessel Safety Management System Assessment (OVMSA);
- DP system verification; and
- Vessel inspections.

Vessel inspections are used to verify compliance with the company's Safety Management System, the overall condition of vessels and the status of planned maintenance system onboard. A Woodside Marine Assurance Specialist will conduct a risk assessment on each vessel to determine the level of assurance applied and the type of vessel inspection required.

Methods of vessel inspection may include, and are not limited to:

- Woodside marine vessel inspection;
- Oil Companies International Marine Forum (OCIMF) Offshore Vessel Inspection Database (OVID) inspection;
- IMCA CMID inspection; and
- Marine warranty survey.

The Woodside Marine Assurance Team will issue the vessel a statement of approval upon completion of the marine assurance process if any identified concerns are addressed appropriately and any conditions imposed are managed.

Where a vessel inspection and/or OVMSA Verification Review is not available and all reasonable efforts based on time and resource availability to complete a vessel inspection and/or OVMSA Verification Review are performed (i.e., short term vessel hire), the Marine Assurance Specialist Offshore may approve the use of an alternate means of inspection. (Section 7.7.2.5).

Environmental requirements specific to platform support vessel contractors are communicated via Woodside marine charterers instructions. This document provides the Master of a vessel on hire to Woodside with a clearly defined set of requirements and procedures for operating the vessel in the vicinity of the Woodside's operating facilities. This includes the management of environmental risks and impacts from the facility. The document includes information on:

- Applicable legislation and guidelines
- Roles and responsibilities
- Marine fauna interaction guidance
- Incident reporting requirements.

Environmental requirements specific to Subsea Support Vessels are communicated via the Subsea Environmental Compliance Package. This document outlines mandatory environmental management requirements for Subsea Support Vessels and associated contractors.

7.7.2.5 Risk assessment

Woodside conducts a risk assessment of vessels where either an OVMSA Verification Review and/or vessel inspection cannot be completed. This is not a regular occurrence and is typically used when the requirements of the assurance process are unable to be met or the processes detailed are not applicable to a proposed vessel(s). The Marine Vessel Risk Assessment will be conducted by the Marine Assurance Specialist, where the vessel meets the short-term hire prerequisites.

The risk assessment is a semi-quantitative method of determining what further assurance process activity, if any, is required to assure a vessel for a particular task or role. The process compares the level of management control a vessel is subject to against the risk factors associated with the activity or role.

Several factors are assessed as part of a vessel risk assessment, including:

- Management control factors:
  - Company audit score (i.e., management system);
  - Vessel HSE incidents;
  - Vessel Port State Control deficiencies;
  - Instances of Port State Control vessel detainment;
  - Years since previous satisfactory vessel inspection;
  - Age of vessel; and
  - Contractors' prior experience operating for Woodside.
- Activity risk factors:
  - People health and safety risks (a function of the nature of the work and the area of operation);
  - Environmental risks (a function of environmental sensitivity, activity type and magnitude of potential environment damage (e.g., largest credible oil spill scenario));
  - Value risk (likely time and cost consequence to Woodside if the vessel becomes unusable);
  - Reputation risk;
  - Exposure (i.e., exposure to risk based on duration of project); and
  - Industrial relations risk.

The acceptability of the vessel or requirement for further vessel inspections or audits is based on the ratio of vessel score to activity risk. If the vessel management control is not deemed to appropriately manage activity risk, a satisfactory company audit and/or vessel inspection may be required before awarding work.

The risk assessment is valid for the period a vessel is on hire and for the defined scope of work.

7.7.3 Management of non-conformance

Woodside classifies non-conformances with EPOs and EPSs as environmental incidents. Woodside employees and contractors are required to report all environmental incidents, and these are managed as per Woodside's internal event recording, investigation and learning requirements.

An internal computerised database called First Priority is used to record and report these incidents. Details of the event, immediate action taken to control the situation, investigation outcomes and corrective actions to prevent reoccurrence are all recorded. Corrective actions are monitored using First Priority and closed out in a timely manner.

Woodside uses a consequence matrix for classification of environmental incidents, with the significant categories being A, B and C (as detailed in Section 2.2.4). Detailed investigations are completed for all categories A, B, C and high potential environmental incidents.

7.7.4 Review

7.7.4.1 Management review

Within the Environment Function, senior management regularly monitor and review environmental performance and the effectiveness of managing environmental risks and performance. Within each Business Unit Leadership Team (e.g., Operations and Subsea), managers review environmental performance regularly, including through quarterly HSE review meetings.

Reviews of oil spill arrangements and testing are performed in accordance with Section 7.11.

Woodside's Operations Division Environment Team will perform routine reviews of the effectiveness of the implementation strategy and associated tools. This will involve reviewing the:

- Operations Division environment KPIs (leading and lagging); and
- Tools and systems to monitor environmental performance (detailed in Section 7.7.1).
- Reviews of oil spill arrangements and testing are performed in accordance with Section 7.11.

7.7.4.2 Program of ongoing engagement with Traditional Custodians

Woodside will undertake an annual review of the Program of Ongoing Engagement with Traditional Custodians (Appendix E) to determine its effectiveness and adapt the program accordingly. The annual review will also include an assessment of appropriateness of the methods used to undertake ongoing consultation with Traditional Custodians.

7.7.4.3 Learning and knowledge sharing

Learning and knowledge sharing occurs via a number of different methods including:

- Event investigations;
- Event bulletins;
- Formal and informal industry benchmarking;
- Cross asset learnings;
- Engineering and technical authorities discipline communications and sharing; and
- Review of impacts, risks and controls across the life of the EP.

7.7.4.4 Continuous improvement

Continuous improvement (CI) projects that involve refurbishment, modification or major maintenance on the facility are typically managed by Offshore Development and Delivery Engineering Teams and are required to follow Appraise and Develop management procedures. Currently, the procedures require that all projects be managed in accordance with the Investment Management Framework which supports the progressive maturation of an opportunity through value creation in the Assess and Select Phases and the maintenance of value in the Develop and Execute phases.

To support the accountable executive to make a decision on whether a CI Project should proceed to the next phase in the Investment Management Framework, it is sometimes necessary to conduct a trial of the modification to determine the outcomes that can be expected if the modification is implemented. Due to prioritisation of resources, the phased progress of opportunities, competition between different solutions and long-term strategic and financial considerations, it is not possible to set quantitative success criteria to determine whether a modification will be implemented based on the results of trials. Instead, the results of a trial are used to inform a decision on whether to progress the CI Project to the next phase in the Investment Management Framework. Decisions are typically made with two key considerations; whether the business is ready to proceed which has a technical/functional focus and whether there is a business case for progressing to the next phase. The business case may consider the ALARP position for the CI Project, if relevant.

7.8 Record keeping

Compliance records (outlined in MC in Section 6) are maintained. Record keeping is in accordance with Regulation 22(15) that addresses maintaining records of emissions and discharges.

7.9 Ongoing consultation

Although consultation for the purpose of Regulation 25 is complete, in accordance with Regulation 22(9) of the Environment Regulations, the implementation strategy must provide for appropriate consultation with relevant authorities of the Commonwealth, a State or Territory, and other relevant interested persons or organisations.

Woodside proposes to undertake the engagements with directly impacted relevant persons and additional persons listed in Table 7-7. Relevant new information identified during ongoing consultation will be assessed using the EP Management of Knowledge (refer to Section 7.7.1.3) and Management of Change Process (refer to Section 7.2.8).

Woodside hosts community forums at which members are provided updates on Woodside activities on a regular basis (for example community reference group meetings). Representatives who present at those meetings are from community and industry and include Woodside, State Government (for instance relevant Regional Development Commissions), Local Government, Indigenous Groups, industry representative bodies, Community and industry organisations.

Relevant persons and those who are simply interested in the activities, can otherwise remain up to date on this activity through subscribing to the Woodside website, or by reading the publicly available version of the EP on NOPSEMA's website, where available.

Should consultation feedback be received following EP acceptance that identifies relevant new information or a measure or control that requires implementation or update to meet the intended outcome of consultation (see Section 5.2), Woodside will apply its EP Management of Knowledge process (refer to Section 7.7.1.3) and Management of Change Process (refer to Section 7.2.8), as appropriate.

Woodside has developed a Program of Ongoing Engagement with Traditional Custodians (Appendix E) which is compliant with Corporate Woodside Policies Strategies and procedures and directly informed by feedback from Traditional Custodians. It provides a mechanism for ongoing dialogue so that Traditional Custodians can, on an ongoing basis, provide Woodside with feedback relating to the activity and in relation to caring for and managing country, including Sea Country. The Program will be tailored to each Traditional Custodian group and may include, as agreed with relevant Traditional Custodians:

- social investment to support Indigenous ranger programs
- support for Indigenous oil spill response capabilities
- support for recording Sea Country values
- support to Traditional Custodian groups to build capabilities and capacity with respect to ability to engage with Woodside and the broader oil and gas industry on activities
- development of ongoing relationships with Traditional Custodian groups
- any other initiatives proposed for protecting Country, including cultural values.

At the time of EP submission, specific activities as part of ongoing consultation regarding the activity are planned with Traditional Custodians. These are described in Appendix E. Where Traditional Custodian relevant persons have requested information or further engagement considered as ongoing consultation, but have not requested a framework agreement, these requests have been captured in Table 7-7. However, a framework agreement may still be initiated by these groups at any time.

Table 7-7: Ongoing consultation engagements

Report/information	Recipient	Purpose	Frequency	Content
Notification (email)	AHO	As requested by AMSA and AHO during consultation.	No less than 4 weeks prior to commencement of activities, if vessels are undertaking activities within the Operational Area (but outside the PSZ) for more than three weeks at a time.	PS 1.5 (Section 6.6.1) Date of activity start and duration
Notification (email)	AMSA	As requested during consultation	Notify AMSA Response Centre (ARC) at least 24-48 hours before operations commence if vessels are undertaking activities in, or in close proximity to (within 1 km of), shipping lanes.	PS 1.6 (Section 6.6.1) Date of activity start
Notification (email)		As requested during consultation	Notify ARC at least 24-48 hours before operations commence, if vessels are undertaking activities within the Operational Area (but outside the PSZ) for more than three weeks at a time.	PS 1.7 (Section 6.6.1) Date of activity start and end
Notification (email)	Department of Defence (DoD)	Standard Practice	Notify DoD at least five weeks prior to commencement of activities, if vessels are undertaking activities within the Operational Area (but outside the PSZ) for more than three weeks at a time.	PS 1.7 (Section 6.6.1) Date of activity start and end
Notification (email)	DPIRD, AFMA	Standard Practice	Notify at least 10 days prior to commencement of activities if vessels are undertaking activities within the Operational Area (but outside the PSZ) for more than three weeks at a time.	PS 1.7 (Section 6.6.1) Date of activity start and end
Notification (email)	WAFIC, Recfishwest	As requested during consultation	Notify at least 10 days prior to commencement of activities if vessels are undertaking activities within the Operational Area (but outside the PSZ) for more than three weeks at a time.	PS 1.7 (Section 6.6.1) Date of activity start and end
Notification (email)	Australasian Underwater Cultural Heritage Database. Any other stakeholders as required in the Unexpected Finds Procedure (Section 7.2.6)	Report any unexpected finds of potential Underwater Cultural Heritage	If triggered by unexpected Finds Procedure	Refer to Unexpected Finds Procedure (Section 7.2.6)
Notification (email)	All relevant persons	Notification of significant change	As required	PS 1.4 (Section 6.6.1) Notification of significant change
Program of ongoing engagement with	Relevant cultural	Ongoing engagement	Ongoing. Responses to any feedback received by Traditional Custodian groups will be provided	Assessment of cultural values.

Report/information	Recipient	Purpose	Frequency	Content
Traditional Custodians (Appendix E)	authorities (Appendix E)		by Woodside within four weeks of receipt. Progress on the Program will be reported in line with annual sustainability reporting via the Woodside website.	Any relevant new information on cultural values will be assessed using the EP Management of Knowledge (Section 7.7.1.3) and Management of Change Process (refer to Section 7.2.8).
Emails/ Meetings	Persons or organisations who provide feedback to Woodside post EP submission	Identification, assessment and consideration of feedback, claims and/or objections	As appropriate.	Assessment of claims and/ or objections. Relevant new information will be assessed using the EP Management of Knowledge (Section 7.7.1.3) and Management of Change Process (refer to Section 7.2.8).

7.10 Reporting

To meet the EPOs and EPSs outlined in this EP, Woodside reports at various levels, as outlined in the next subsections.

7.10.1 Routine reporting (internal)

7.10.1.1 Daily progress reports and meetings

The following daily reports containing environmental performance information are issued:

- Pan-Woodside Daily Production Report – The report includes facility performance information on production and a log of any HSE events; and
- Subsea support/IMMR vessel Daily Progress Report(s) – During subsea IMMR activities, daily reports are issued by the Woodside Site Representative. The reports provide performance information on HSE events, diesel use, together with equipment information, current and planned work activities.

Meetings between key personnel are used to transfer information, discuss incidents, agree plans for future activities and develop plans and accountabilities for resolving issues.

7.10.1.2 Regular health, safety and environment meetings

Regular dedicated HSE meetings are held with offshore and Perth-based management and advisers to address targeted HSE incidents and initiatives. Minutes of these meetings are produced and distributed as appropriate.

7.10.1.3 Performance reporting

Monthly and quarterly performance reports are developed and reviewed by the Function and Business Unit Leadership teams. These reports cover several subject matters, including:

- HSE incidents (including high potential incidents and those related to this EP) and recent activities
- corporate KPI targets, which include environmental metrics
- outstanding actions resulting from audits or incident investigations
- technical high and low lights
- Status of subsea IMMR activities.

7.10.2 Routine reporting (external)

7.10.2.1 Start and end notifications of the Petroleum Activity

In accordance with Regulation 54, Woodside will notify NOPSEMA within ten days of the completion of the Petroleum Activity.

7.10.2.2 Environmental performance review and reporting

In accordance with applicable environmental legislation for the activity, Woodside is required to report information about environmental performance to the appropriate regulator. Regulatory reporting requirements are summarised in Table 7-8.

Table 7-8: Routine external reporting requirements

Report	Recipient	Frequency	Content
Monthly Recordable Incident Reports (Appendix I)	NOPSEMA	Monthly, by the 15th of each month	Details of recordable incidents that have occurred during the Petroleum Activity for previous month (if applicable).
Environmental Performance Report	NOPSEMA	Annually, with the first report submitted within 12 months of commencing the Petroleum Activity covered by this EP (as per the requirements of Regulation 22(7))	Compliance with EPOs, controls and EPSs outlined in this EP, in accordance with the Environment Regulations. Decommissioning progress update.
National Pollutant Inventory Report	DCCEEW	Annual, by 30 September each year	Summary of the emissions to land, air and water, including those from the facility. Reporting period 1 July to 30 June each year.
National Greenhouse and Energy Reporting	Clean Energy Regulator	Annual, by 31 October each year	Summary of energy use and greenhouse gas emissions. including those from the facility. Reporting period is 1 July to 30 June each year.

7.10.2.3 Revision of the Environment Plan

In accordance with Regulation 41, Woodside will submit a revised environment plan at least 14 days before the end of the period of 5 years, from the day the environment plan for the activity is accepted by NOPSEMA. Revisions in accordance with Regulation 38 or 39 are outlined in Section 7.2.8.2.

7.10.2.4 End of the Environment Plan

In accordance with Regulation 54, Woodside will notify NOPSEMA within ten days of the completion of the Petroleum Activities Program.

The EP will end when Woodside notifies NOPSEMA that the Petroleum Activity has ended, all of the obligations identified in this EP have been completed, and NOPSEMA has accepted the notification, in accordance with Regulation 46 of the Environment Regulations.

The Petroleum Activity is not expected to end within the five-year life of this EP.

7.10.3 Incident reporting (internal)

All Woodside employees and contractors are required to report environmental incidents and non-conformances with this EP. Incidents are reported using an Event Report Form which includes details of the event, immediate action taken to control the situation, and corrective actions to prevent reoccurrence.

7.10.4 Incident reporting (external) – reportable and recordable

7.10.4.1 Reportable incidents

A reportable incident is defined under Regulation 5 of the Environment Regulations as:

- ‘an incident relating to the activity that has caused, or has the potential to cause, moderate to significant environmental damage’

A reportable incident for the Petroleum Activity is:

- an incident that has caused environmental damage with a consequence level of Moderate (C) or above (as defined under Woodside’s Risk Table; refer to Section 2.2.4)
- an incident that has the potential to cause environmental damage with a consequence level of Moderate (C) or above (as defined under Woodside’s Risk Table; refer to Section 2.2.4).

The environmental risk assessment (Section 6) for the Petroleum Activity identifies those risks with a potential consequence level of C+ for environment. The incidents that have the potential to cause this level of impact include:

- well loss of containment (MEE-01)
- topsides loss of containment (MEE-03)
- offtake equipment loss of containment (MEE-04)
- cargo tank loss of containment (MEE-05)
- loss of control of structural integrity (MEE-06)
- loss of marine vessel separation (MEE-07)
- loss of control of suspended load (MEE-08).

Any such incidents represent potential events that would be reportable incidents. Incident reporting is performed with consideration of NOPSEMA Guidance Note (N-03300-GN2303 A1179039) (NOPSEMA, 2025), stating ‘if in doubt, notify NOPSEMA’, and assessed on a case-by-case basis to determine if they trigger a reportable incident as defined in this EP and by the Environment Regulations.

7.10.4.1.1 Notification

NOPSEMA will be notified of all reportable incidents, according to the requirements of Regulations 47, 48 and 49 of the Environment Regulations. Woodside will:

- report all reportable incidents to the regulator (orally) as soon as practicable, but within two hours of the incident or of its detection by Woodside
- provide a written record of the reported incident to NOPSEMA, the National Offshore Petroleum Titles Administrator and the department of the responsible State Minister (DEMIRS) as soon as practicable after orally reporting the incident

- complete a written report for all reportable incidents using a format consistent with the NOPSEMA Form FM0831 – Reportable Environmental Incident (Appendix I), which must be submitted to NOPSEMA as soon as possible (ASAP), but within three days of the incident or of its detection by Woodside
- provide a copy of the written report to the National Offshore Petroleum Titles Administrator and DEMIRS, within seven days of the written report being provided to NOPSEMA.

AMSA will be notified of oil spill incidents ASAP after their occurrence, and DCCEEW notified if MNES will be affected by an oil spill incident.

In the unlikely event of a spill, Woodside must notify appropriate cultural authorities that may be affected; with the purpose of mitigating potential risks to cultural heritage values in accordance with its Oil Pollution First Strike Plan (See Appendix H).

7.10.4.2 Recordable incidents

A recordable incident is defined under Regulation 5 of the Environment Regulations as a 'breach of an EPO or EPS, in the EP that applies to the activity, that is not a reportable incident'.

Any breach of the EPOs or EPSs (as presented within Section 6) will be raised as a recordable incident and managed as per the notification and reporting requirements outlined below and internal requirements outlined in Section 7.10.1.

Notification

NOPSEMA will be notified of all recordable incidents, according to the requirements of Regulation 50(4), no later than 15 days after the end of the calendar month using the NOPSEMA Form – Recordable Environmental Incident Monthly Summary Report (Appendix I), detailing:

- all recordable incidents that occurred during the calendar month
- all material facts and circumstances concerning the recordable incidents that the operator knows or is able, by reasonable search or enquiry, to find out
- any action taken to avoid or mitigate any adverse environment impacts of the recordable incidents
- the corrective action that has been taken, or is proposed to be taken, to prevent similar recordable incidents
- the action that has been taken, or is proposed to be taken, to prevent a similar incident occurring.

7.10.4.3 Other external incident reporting requirements

In addition to the notification and reporting of environmental incidents defined under the Environment Regulations and Woodside requirements, Table 7-9 describes the incident reporting requirements that also apply in the Operational Area if a spill originates from a vessel.

Table 7-9: External incident reporting requirements

Event	Responsibility	Notifiable party	Notification requirements	Contact	Contact detail
Any marine incidents during Petroleum Activity	Vessel Master	AMSA	Incident Alert Form 18 as soon as reasonably practicable. Within 72 hours after becoming aware of the incident, submit Incident Report Form 19.	AMSA	reports@amsa.gov.au
Oil pollution incidents in Commonwealth Waters	Vessel Master	AMSA Rescue Coordination Centre (RCC)	As per Article 8 and Protocol I of MARPOL within two hours via the national emergency 24-hour notification contacts and a written report within 24 hours of the request by AMSA	AMSA RCC Australia	If the ship is at sea, reports are to be made to: Free call: 1800 641 792 Phone: 08 9430 2100 (Fremantle)

Event	Responsibility	Notifiable party	Notification requirements	Contact	Contact detail
Oil pollution incidents in Commonwealth waters	Vessel Master	AMSA	Without delay as per the Commonwealth *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*, part II, section 11(1), AMSA RCC notified verbally via the national emergency 24-hour notification contact of the hydrocarbon spill; followed up with a written Pollution Report ASAP after verbal notification.	AMSA RCC Australia	Phone: 1800 641 792 or +61 2 6230 6811 AFTN: YSARYCYX

Event	Responsibility	Notifiable party	Notification requirements	Contact	Contact detail
Any oil pollution incident that has the potential to enter a National Park or requires oil spill response activities to be conducted within a National Park	Vessel Master	DCCEEW	Reported verbally, ASAP.	Director of National Parks	Phone: 02 6274 2220
Activity that causes unintentional death of or injury to Marine fauna species as Threatened or Migratory under the EPBC Act	Vessel Master	DCCEEW	Within 7 days of becoming aware.	Secretary of the DCCEEW	Phone: 1800 803 772 Email: protected.species@environment.gov.au
Within 24 hours of Woodside reporting the incident to the appropriate authority	CIMT IC or Delegate	DPIRD	Notification to DPIRD via email within 24 hours of Woodside reporting the incident to the appropriate authority.	-	environment@dpird.wa.gov.au

7.11 Emergency preparedness and response

7.11.1 Overview

Under Regulation 22(8), the implementation strategy must contain an oil pollution emergency plan and provide for updating the OPEP. Regulation 22(9) outlines the requirements for the OPEP which must include adequate arrangements for responding to and monitoring of oil pollution.

Table 7-10 summarises how this EP and supporting documents address the various requirements of Environment Regulations relating to oil pollution response arrangements.

Table 7-10: Oil pollution preparedness and response overview

Content	Environment Regulations reference	Document/section reference
Details (oil pollution response) control measures that will be used to reduce the impacts and risks of the activity to ALARP and an acceptable level	Regulations 21 (5), 21(6), 22 (2)	Oil Spill Preparedness and Response Mitigation Assessment (Appendix G)
Describes the oil pollution emergency plan	Regulation 22(8)	Woodside's oil pollution emergency plan has the following components: • Hydrocarbon Spill Australia Regulatory Framework • Okha Oil Pollution First Strike Plan (Appendix H) • Oil Spill Preparedness and Response Mitigation Assessment (Appendix G)
Details the arrangements for responding to and monitoring oil pollution (to inform response activities), including control measures	Regulation 22(9)	Oil Spill Preparedness and Response Mitigation Assessment (Appendix G) Okha Oil Pollution First Strike Plan (Appendix H)
Details the arrangements for updating and testing the oil pollution response arrangements	Regulations 22(8), 22(12), 22(13), 22(14)	EP: Section 7.11.7 Oil Spill Preparedness and Response Mitigation Assessment (Appendix G)
Details provisions for monitoring impacts to the environment from oil pollution and response activities	Regulation 22(10)	Oil Spill Preparedness and Response Mitigation Assessment (Appendix G)
Demonstrates that the response arrangements in the oil pollution emergency plan are consistent with the national system for oil pollution preparedness and response	Regulation 22(11)	Hydrocarbon Spill Australia Regulatory Framework

7.11.2 Emergency response training

Regulation 22(4) requires that the implementation strategy includes measures to ensure employees and contractors have the appropriate competencies and training. Woodside has conducted a risk-based training needs analysis on positions required for effective oil spill response. After mapping training to Woodside-identified competencies, training was then mapped to positions based on their required competencies (Table 7-11).

Table 7-11: Emergency response training requirements

IMT position	Minimum competency
Corporate Incident Management Team (CIMT) Incident Commander and Deputy Incident Commander	• IMT Fundamentals (internal course) or equivalent • ICS100/200 • IMO3 or equivalent spill response specialist level with an oil spill response organisation (OSRO) • Participation in L2 activation, exercise or skills maintenance
Operations, Planning, Logistics and Finance Sections, and other rostered members of the CIMT	• IMT Fundamentals course or equivalent • ICS 100/200 • Oil Spill theory • Participation in L2 activation, exercise or skills maintenance
Environment Unit Lead	• IMT Fundamentals course • ICS 100/200 • IMOII or equivalent spill response specialist level with an OSRO • Participation in L2 activation, exercise or skills maintenance
Note on competency/equivalency	
In 2023 Woodside undertook a review of incident and crisis systems, processes and tools to assess whether these were fit-for purpose and has rolled out a change to the Crisis and Emergency Management training and the oil spill response training requirements for IMT roles. The revised IMT Fundamentals training Program aligns with the performance requirements of the PMAOMIR320 – Manage Incident Response Information and PMAOM0R418 - Coordinate Incident Response. In 2023, Woodside took the decision to align its global incident command arrangements to the Incident Command System (ICS). As such all rostered members of the Incident Management Team are trained up to ICS 200. In addition to baseline incident management training, all rostered members of the CIMT undertake a level of hydrocarbon spill response training. Depending upon the role, this may take the form of IMO training or completion of Woodside's internal oil spill training course (OSREC) which involves the completion of two online AMSA Modules (Introduction to National Plan and Incident Management; and Introduction to Oil Spills) and face-to-face training. Woodside Learning Services is responsible for collating and maintaining personnel training records. The HSP Dashboard reflects the competencies required for each oil spill role (IMT/operational).	

7.11.3 Emergency response preparation

The Emergency Operations Centre (EOC), based in Woodside's head office in Perth, is the onshore coordination point for an offshore emergency. The EOC is staffed by an appropriately skilled team available on call 24 hours a day. This team coordinates rescues, minimises damage to the environment and facilities, and liaises with external agencies. Woodside's Incident Command Structure is included in the Oil Pollution First Strike Plan (Appendix H) and response arrangements are further detailed in the Hydrocarbon Spill Australia Regulatory Framework. Roles and responsibilities for emergency response are detailed in the Woodside Incident Management Handbook.

Woodside will have a number of Emergency Response Plans (ERP) in place relevant to the Petroleum Activity. The ERP provides procedural guidance specific to the asset and location of operations to control, coordinate and respond to an emergency or incident.

In addition, the Emergency Preparedness MSPS (M06) is in place to assure that in the event of an incident, the organisation is appropriately prepared for all necessary actions which may be required for the protection of People, Environment, Asset, Reputation and Livelihood.

7.11.4 Initial response to facility incident

The facility is equipped with ESD systems designed to protect personnel, the facility and the environment from unsafe operating conditions and catastrophic situations.

ESD systems are provided as a means of isolation in response to process upsets and facility conditions (including associated flowlines and risers) that could result in loss of hydrocarbon inventories, or to reduce

the potential impact from a hydrocarbon loss of containment event on the facility. Provision has been made for process and facility alarm systems to provide early indication of any process upset conditions and potential hazardous events, including fire and gas alarms.

The key ERP relevant to the facility and subsea infrastructure (excluding the export pipelines) is the Okha Emergency Response Plan. This plan covers health, safety, asset and environmental risks (including fire, structural integrity, sabotage, etc) to ensure the range of occupational, asset and environmental risk exposures from incidents have been considered and plans are in place for their management. The plan provides specific details on the initial response required during events with potential significant environmental consequences such as a hydrocarbon spill, subsea hydrocarbon leak or potential collision.

The Pipelines Emergency Response Plan covers key ERP relevant to the export pipelines, as well as other major pipelines on Woodside's NWS facilities. The Operations Oil Pollution First Strike Plan provides immediate actions required to commence a response. Vessels will have SOPEPs in accordance with the requirements of MARPOL 73/78 Annex I. These plans outline responsibilities, specify procedures and identify resources available in the event of a hydrocarbon or chemical spill from vessel activities. The Okha Operations Oil Pollution First Strike Plan (Appendix H) is intended to work in conjunction with the SOPEPs, if hydrocarbons are released to the marine environment from a vessel.

Woodside has established EPOs, EPSs and MC to be used for hydrocarbon spill response during the Petroleum Activity.

7.11.5 Oil and other hazardous materials spill

A significant hydrocarbon spill during the Petroleum Activities Program is unlikely, but should such an event occur, it has the potential to cause serious environmental and reputational damage if not managed properly. The Hydrocarbon Spill Australia Regulatory Framework, supported by the Okha Operations Oil Pollution First Strike Plan (Appendix H) which provides tactical response guidance to the activity/area and the Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) (Appendix G), cover spill response for this Petroleum Activity.

The Crisis and Emergency Management Team manages Woodside's hydrocarbon spill response equipment stockpile. Woodside also maintains a suite of contracts for access to additional specialist response equipment and trained personnel as required via Australian and international spill response organisations and labour supply companies. In the event of a major spill, Woodside will enact first strike response actions, in liaison with the relevant Control Agency, as detailed in the activity-specific Oil Pollution First Strike Plan (Appendix H).

Support vessels will have SOPEPs in accordance with the requirements of MARPOL 73/78 Annex I. These plans outline responsibilities, specify procedures and identify resources available in the event of a hydrocarbon or chemical spill from vessel activities. The Okha Operations Oil Pollution First Strike Plan (Appendix H) is intended to work in conjunction with the SOPEPs, if hydrocarbons are released to the marine environment from a vessel.

Woodside has established EPOs, performance standards and MC to be used for oil spill response during the Petroleum Activity.

7.11.6 Emergency and spill response

Woodside categorises incidents in relation to response requirements:

7.11.6.1 Level 1 Incident

A Level 1 incident can be resolved through the use of existing resources, equipment and personnel. A Level 1 incident is contained, controlled and resolved by site/regionally based teams using existing resources and functional support services.

7.11.6.2 Level 2 incident

A Level 2 incident is characterised by a response that requires external operational support to manage the incident. It is triggered in the event the capabilities of the tactical level response are exceeded. This support is provided to the activity via the activation of all, or part of, the responsible CIMT.

7.11.6.3 Level 3 incident

A Level 3 incident or crisis is identified as a critical event that seriously threatens the organisation's People, the Environment, company Assets, Reputation, or Livelihood. At Woodside, the Crisis Management Team (CMT) manages the strategic impacts in order to respond to and recover from the threat to the company (material impacts, litigation, legal and commercial, reputation, etc). The CIMT may also be activated as required to manage the operational incident response.

7.11.7 Emergency and spill response drills and exercises

Woodside's capability to respond to incidents will be tested periodically, in accordance with the Emergency and Crisis Management Procedure. The scope, frequency and objective of these tests is described in Table 7-12. Emergency response testing is aligned to existing or developing risks associated with Woodside's operations and activities. Corporate hazards/risks outlined in the corporate risk register, respective Safety Cases or project Risk Registers, are reference points developing and scheduling emergency and crisis management exercises. External participants may be invited to attend exercises (e.g., government agencies, specialist service providers, oil spill response organisations, or industry members with which Woodside has mutual aid arrangements).

The overall objective of exercises is to test procedures, skills and the teamwork of the Emergency Response and Command Teams in their ability to respond to major accident/major environment events. After each exercise, the team holds a debriefing session, during which the exercise is reviewed. Any lessons learned or areas for improvement are identified and incorporated into revised procedures, where appropriate.

Table 7-12: Testing of response capability

Response category	Scope	Response testing frequency	Response testing objective
Level 1 Response	Exercises are asset-specific	Two comprehensive Level 1 'First Strike' drills conducted per year. Additional Level 1 emergency drills routinely conducted (approximately one per fortnight).	Comprehensive exercises test elements of the Oil Pollution First Strike Plan (Appendix H). Emergency drills are scheduled to test other aspects of the ERP.
Level 2 Response	Exercises are facility / vessel specific	A minimum of one emergency management exercise conducted biennially.	Testing both the facility IMT response and/or that of the CIMT following handover of incident control.
Level 3 Response	Exercises are relevant to all Woodside assets	The number of CMT exercises conducted each year is determined by the Chief Executive Office, in consultation with the Vice President of Security and Emergency Management.	Test Woodside's ability to respond to and manage a crisis-level incident.

7.11.8 Hydrocarbon spill response testing of arrangements

Woodside is required to test hydrocarbon spill response arrangements as per Regulations 22(12), 22(13) and 22(14) in the Environment Regulations. Woodside's arrangements for spill response are common across Australian operating assets and activities to ensure controls are consistent. The overall objective of testing these arrangements is to ensure that Woodside maintains an ability to respond to a hydrocarbon spill, specifically to:

- ensure relevant responders, contractors and key personnel understand and practise their assigned roles and responsibilities
- test response arrangements and actions to validate response plans
- ensure lessons learned are incorporated into Woodside processes and procedures and improvements made where required.

If new response arrangements are introduced, or existing arrangements significantly amended, additional testing is undertaken accordingly. Additional activities or activity locations are not anticipated to occur; however, if they do, testing of relevant response arrangements will be undertaken as soon as practicable.

In addition to testing response capability, as described in Table 7-12, up to eight formal exercises are planned annually, across Woodside, to specifically test arrangements for responding to a hydrocarbon spill to the marine environment.

7.11.9 Testing of arrangements schedule

Woodside's Testing of Arrangements Schedule (Figure 7-9) aligns with international good practice for spill preparedness and response management; the testing is compatible with the International Petroleum Industry Environmental Conservation Association Good Practice Guide and the Australian Institute for Disaster Resilience (AIDR) Australian Emergency Management Arrangements Handbook. If a spill occurs, enacting these arrangements will underpin Woodside's ability to implement a response across its petroleum activities.

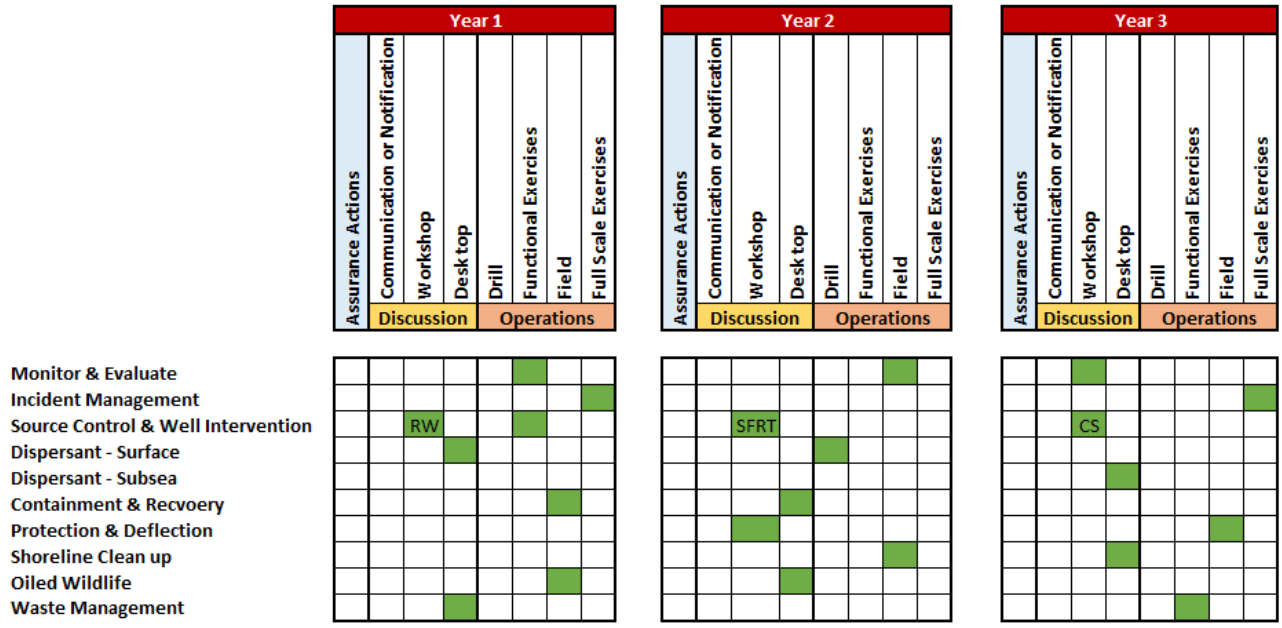

Figure 7-9: Indicative three-yearly testing of arrangements schedule

Note: Schedule is subject to change, additional detail is included in the live document.

The hydrocarbon spill arrangements shown in the rows of the schedule are tested against Woodside's regulatory commitments. Each arrangement has a support agency/company and an area to be tested (e.g., capability, equipment and personnel). For example, an arrangement could be to test Woodside's personnel capability for conducting shoreline assessment, or the ability of the Australian Marine Oil Spill Centre to provide response personnel and equipment.

The vertical columns relate to how hydrocarbon spill arrangements will be tested over the three-year rolling schedule. The sub-heading for the column describes the standard method of testing likely to be undertaken (e.g., discussion exercise, desktop exercise), and the green cells indicate the arrangements that could be tested for each method.

Some arrangements may be tested across multiple exercises (e.g., critical arrangements) or via other 'additional assurance' methods outside the formal Testing of Arrangements Schedule that also constitute sufficient evidence of testing of arrangements (e.g., audits, no-notice drills, internal exercises, assurance drills).

7.11.10 Cyclone and dangerous weather preparation

Tropical cyclones and other severe weather events are a potential risk to the safety and health of personnel and can potentially cause spills of hazardous materials into the environment from infrastructure and/or damaged vessels.

Facilities and relevant support vessels on hire to Woodside receive regular forecasts from Woodside Meteorologists, who liaise closely with the Bureau of Meteorology (BOM). If a cyclone (or severe weather event) is forecast, the path and its development is plotted and monitored using the BoM data. If there is the potential for the cyclone (severe weather event) to affect the Petroleum Activities Program, the asset Cyclone Contingency Plan and the vessel's Cyclone Contingency Plan will be actioned. If required, vessels can transit from the proposed track of the cyclone (severe weather event).

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9. LIST OF TERMS AND ACRONYMS

Table 9-1: List of terms and definitions

Term	Definition
ABS	Australian Bureau of Statistics
ACCU	Australian Carbon Credit Units
ACN	Australian company number
AFC	antifouling coating
AFFF	aqueous film forming foam
AH Act	Aboriginal Heritage Act
AHO	Australian Hydrographic Office
AIS	automatic identification system
ALARP	as low as reasonably practicable
AMP	Australian marine park
AMSA	Australian Maritime Safety Authority
ANZECC	Australian and New Zealand Environment and Conservation Council
AR6-WGI	AR6 Working Group I
ARC	AMSA Response Centre
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
AS	Australian Standard
ASAP	as soon as possible
ATSIHP Act	Aboriginal and Torres Strait Islander Heritage Protection Act
AUV	autonomous underwater vehcile
BCF	bioconcentration factor
BIA	biologically important area
BP	boiling point
BTEX	Benzene, toluene, ethylbenzene and xylene
CAPEX	capital expenditure
CCE	common cause event
CCR	central control room
CCUS	carbon capture, utilisation and storage
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CHMP	Cultural Heritage Management Plan
CICC	Corporate Incident Coordination Centre
CMMS	computerised maintenance management system
CoP	cessation of production
CS	cost/sacrifice
Cp	centipoise
CV	company values
CWLH	Cossack, Wanaea, Lambert and Hermes

Term	Definition
DCCEEW	Commonwealth Department of Climate Change, Energy, Environment and Water
DEMIRS	Western Australian Department of Energy, Mining, Industry Regulation and Safety
DCS	distributed controls system
DGV	default guideline values
DoT	Western Australian Department of Transport
DP	dynamic positioning
DPLH	Department of Planning, Lands and Heritage
DWER	Department of Water and Environmental Regulation
ECAR	Environmental Compliance Action Register
EET	emission estimation techniques
EGC	exhaust gas cooler
EMBA	environment that may be affected
ENVID	environment identification
Environment Regulations	Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
EOFL	end of field life
EP	Environment Plan
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
EPO	environmental performance outcome
EPS	environmental performance standards
ERP	emergency response plan
ESD	ecologically sustainable development
F	feasibility
F-Pil	flatback turtles, Pilbara region
FPSO	floating production, storage and offloading
G-NWS	green turtles, North West Shelf
GHG	greenhouse gas
GP	good industry practice
GWA	Goodwyn Alpha
HFC	hydrofluorocarbons
HOCNF	Harmonised Offshore Chemical Notification Format
HP	high pressure
HQ	hazard quotient
HSE	health, safety and environment
HT	high temperature
HVAC	heating, ventilation and air conditioning
ICC	Incident Control Centre
ICLDP	Incident and Crisis Leadership Development Program
ID	identity/identification

Term	Definition
ILUA	Indigenous Land Use Agreement
IMMR	inspection, maintenance, monitoring and repair
IMO	International Maritime Organization
IMS	invasive marine species
IMSMA	IMS Management Area
IMT	Incident Management Team
IPA	Indigenous Protected Area
IPCC	Intergovernmental Panel on Climate Change
IPIECA	International Petroleum Industry Environmental Conservation Association
ISO	International Organization for Standardization
ISSoW	integrated safe system of work
IUCN	International Union for Conservation of Nature
JRCC	Joint Rescue Coordination Centre
KEF	key ecological feature
KPI	key performance indicator
LAT	lowest astronomical tide
LCS	legislation, codes and standards
LH-WA	loggerhead turtles, Western Australia
LoR	limit of reporting
LNG	liquefied natural gas
LP	low pressure
LPG	liquefied petroleum gas
LT	low temperature
LWI	light well intervention
MAC	Murujuga Aboriginal Corporation
MAE	major accident events
MAH	monocyclic aromatic hydrocarbons
MARPOL	The International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978 (also known as MARPOL 73/78)
MBES	multibeam echo sounder
MC	measurement criteria
MEE	major environmental event
MEG	monoethylene glycol
MGP	Methane Guiding Principles
MNES	matters of national environmental significance
MOC	management of change
MODU	mobile offshore drilling unit
MOPO	Manual of Permitted Operations
MRAS	Murujuga Rock Art Strategy

Term	Definition
MRAMP	Murujuga Rock Art Monitoring Program
MS	Ministerial Statement
MSPS	Management System Performance Standard
N/A	not applicable
NEPM	National Environment Protection Measure
NDC	Nationally Determined Contribution
NIMS	non-indigenous marine species
NH_3	ammonia
NOAA	United States National Oceanic and Atmospheric Administration
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NORM	naturally occurring radioactive material
NPI	National Pollutant Inventory
NRA	North Rankin Alpha
NRC	North Rankin Complex
NWMR	North-west Marine Region
NWS	North West Shelf
NZ	New Zealand
OCNS	Offshore Chemical Notification Scheme
OGCI	Oil and Gas Climate Initiative
OGMP 2.0	Oil and Gas Methane Partnership 2.0
OIW	oil-in-water
OMDAMP	Offshore Marine Discharge Adaptive Management Plan
OPEA	Oil Pollution Emergency Arrangements
OPEP	Oil Pollution Emergency Plan
OPEX	operating expenditure
OPGGS Act	Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006*
OSPAR Convention	Convention for the Protection of the Marine Environment of the North-East Atlantic
OSREC	Oil Spill Response Skills Enhancement Course
OVID	Offshore Vessel Inspection Database
OVMSA	Offshore Vessel Management System Assessment
PAH	polycyclic aromatic hydrocarbon
PAU	pre-assembled unit
PEC	Predicted effects concentration
pelagic	open ocean environment
PFC	perfluorocarbons
PJ	professional judgement
PK	peak pressure
PLEM	pipeline end manifold

Term	Definition
PNEC	Predicted no effect concentration
POOMP	Production Optimisation and Opportunity Management Procedure
ppb	parts per billion
PS	Performance Standard
PSM	process safety management
PSRA	Process Safety Risk Assessment
PSZ	petroleum safety zone
PTS	or permanent threshold shift
PW	produced water
PWV	production wing valve
RBA	risk-based analysis
RCC	Regional Coordination Centre
rms	root mean square
RO	reverse osmosis
ROC	remote operations centre
ROV	remotely operated vehicle
RFSU	ready for start up
RTM	riser turret mooring
SAP-PM	Woodside's CMMS
SBP	sub-bottom profiler
SCC	safety and environment critical component
SCE	safety and environment critical element
SCM	subsea control module
SEL	sound exposure level
SF6	sulphur hexafluoride
sessile	fixed in place, immobile
SIMAP	Spill Impact Mapping and Analysis Program
SIMOPS	simultaneous operations
SGM	Safeguard Mechanism
SMC	Safeguard Mechanism Credits
SOPEP	Shipboard Oil Pollution Emergency Plan
SPL	sound pressure level
SSS	side scan sonar
SV	societal value
SWMR	South-west Marine Region
TEG	triethylene glycol
The Regulations	Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
TPH	total petroleum hydrocarbon

Term	Definition
TRC	total residual chlorine
TRH	total residual hydrocarbon
TTS	temporary threshold shift
UK	United Kingdom
UN	United Nations
UNSD	United Nations Statistics Division
UPS	uninterrupted power supply
USEPA	United States Environmental Protection Authority
US	United States
USV	uncrewed surface vessel
USEPA	United States Environment Protection Authority
VOC	volatile organic compound
VRU	vapour recovery unit
WA	Western Australia
WAF	water-accommodated fractions
WANPE	Wanaea Pipeline End
WC GEL	Wanaea Cossack gas export line
WET	Whole effluent toxicity
WHA	World Heritage Area
WHP	World Heritage property
WMS	Woodside Management System
WOMP	well operations management plan
YMAC	Yamatji Marlpa Aboriginal Corporation
ZRFI	Zero Routine Flaring Initiative

APPENDIX A WOODSIDE ENVIRONMENT AND BIODIVERSITY, CLIMATE AND RISK MANAGEMENT POLICIES

Environment and Biodiversity Policy

OBJECTIVE

Woodside recognises the intrinsic value of nature and the importance of conserving biodiversity and ecosystem services to support the sustainable development of our society. We are committed to doing our part. We understand and embrace our responsibility to undertake activities in an environmentally sustainable way.

PRINCIPLES

Woodside commits to:

- Implementing a systematic approach to the management of the impacts and risks of our operating activities on an ongoing basis, including emissions and air quality, discharge and waste management, water management, biodiversity and protected areas.
- Applying the mitigation hierarchy principle (avoid, minimise, restore) and a continuous improvement approach to ensure we maintain compliance, improve resource use efficiency and reduce our environmental impacts.
- Embedding environmental and biodiversity management, and opportunities, in our business planning and decision-making processes.
- Complying with relevant laws and regulations and applying responsible standards where laws do not exist.
- Not undertaking new activities[1] within the boundaries of natural sites on the UNESCO World Heritage List.[2]
- Not undertaking new activities within IUCN Protected Areas[3] unless compatible with management plans in place for the area.
- Achieving net zero deforestation[4] for new activities.
- Developing Biodiversity Management Plans for all new major projects (CAPEX >US$2 billion).
- Supporting positive biodiversity outcomes in regions and areas in which we undertake activities.
- Setting targets and publicly reporting on our environmental and biodiversity performance.

APPLICABILITY

Responsibility for the application of this Policy rests with all Woodside employees, contractors and joint venturers engaged in activities under Woodside operational control. Woodside managers are also responsible for promotion of this Policy in non-operated joint ventures.

This Policy will be reviewed regularly and updated as required.

Revised by the Woodside Energy Group Ltd Board in December 2024.

[1] Does not include non-industrial and existing activities that are compatible with maintenance of the listed outstanding universal values.

[2] New UNESCO World Heritage Listings that overlap existing activities will be assessed at the time of listing.

[3] New IUCN Protected Areas that overlap existing activities will be assessed at the time of listing.

[4] Definition of Forest: 'native trees higher than 5 metres and a canopy cover of more than 10 percent on the land to be cleared'.

Climate Policy

BACKGROUND

The Intergovernmental Panel on Climate Change has stated that "it is unequivocal that human influence has warmed the atmosphere, ocean and land". An objective of the Paris Agreement is to hold "the increase in the global average temperature to well below 2ºC above pre-industrial levels" and to pursue "efforts to limit the temperature increase to 1.5ºC". Many countries have set targets to reduce greenhouse gas emissions, including by changing the way they produce and consume energy.

OBJECTIVE

Woodside's objective is to thrive in this energy transition as a low cost, lower carbon energy provider.

PRINCIPLES

Woodside aims to achieve the objective by:

- Setting science-based[1] near, mid, and long-term net emissions reduction targets that are consistent with Paris-aligned[2] scenarios, covering equity scope 1 and 2 emissions, both operated and non-operated.[3]
- Developing and operating oil and gas projects in a manner that is consistent with these targets. This includes the deployment of lower-emission technologies (Design Out), supporting efficient operations (Operate Out) and use of robust offsets (Offset) as methods to reduce and offset greenhouse gas emissions.
- Investing in new energy products and lower carbon services to reduce customers' emissions (part of Woodside's Scope 3 emissions), including but not limited to hydrogen, ammonia and carbon capture, utilisation and storage.
- Publishing transparent climate-related disclosures aligned to the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) or other recognised global reporting standards.
- Aligning our advocacy to the principles of this Climate Policy.

[1] Woodside is using the draft Prototype IFRS Sustainability Disclosure Standard definition of "science-based" (published 2021) which states "targets are considered 'science-based' if they are in line with what the most recent climate science sets out is necessary to meet the goals of the Paris Agreement—limiting global warming to below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit warming to 1.5 degrees Celsius.". See https://www.ifrs.org/content/dam/ifrs/groups/trwg/trwg-climate-related-disclosures- prototype.pdf (Appendix A).

[2] Woodside is using the draft Prototype IFRS Sustainability Disclosure Standard definition of "Paris-aligned scenarios" (published 2021) which states "scenarios consistent with limiting global warming to below 2 degrees Celsius above pre-industrial levels and pursuing efforts to limit warming to 1.5 degrees Celsius." See https://www.ifrs.org/content/dam/ifrs/groups/trwg/trwg-climate-related-disclosures- prototype.pdf (Appendix A).

[3] Equity emissions means the share of the total emissions arising from an activity that are attributable to Woodside in proportion to Woodside's ownership interest in the activity, irrespective of whether Woodside operates the activity. Operated emissions are the total emissions arising from an activity that Woodside operates, irrespective of Woodside's ownership interest.

APPLICABILITY

Responsibility for the application of this Policy rests with all Woodside employees, contractors and joint venture participants engaged in activities under Woodside operational control. Woodside managers are also responsible for promotion of this Policy in non-operated joint ventures.

This Policy will be reviewed regularly and updated as required.

Reviewed by the Woodside Energy Group Ltd Board in December 2024.

Risk Management Policy

OBJECTIVES

Woodside recognises that risk is inherent in our business and the effective management of risk is vital to deliver our strategic objectives, continued growth and success. We are committed to managing risks in a proactive and effective manner as a source of competitive advantage.

Our approach protects us against potential negative impacts, enables us to take risk for reward and improves our resilience against emerging risks. The objective of our risk management framework is to provide a single consolidated view of risks across the company to understand our full risk exposure and prioritise risk management and governance.

The success of our approach lies in the responsibility placed on everyone at all levels to proactively identify, assess and treat risks relating to the objectives they are accountable for delivering.

PRINCIPLES

Woodside achieves these objectives by:

- Applying a structured and comprehensive framework for the identification, assessment and treatment of current risks and response to emerging risks;
- Ensuring line of sight of financial and non-financial risks at appropriate levels of the organisation;
- Demonstrating leadership and commitment to integrating risk management into our business activities and governance practices;
- Recognising the value of stakeholder engagement, best available information and proactive identification of potential changes in external and internal context;
- Embedding risk management into our critical business processes and control framework;
- Understanding our exposure to risk and tolerance for uncertainty to inform our decision making and assure that Woodside is operating with due regard to the risk appetite endorsed by the Board; and
- Evaluating and improving the effectiveness and efficiency our approach.

APPLICABILITY

The Managing Director of Woodside is accountable to the Board of Directors for ensuring this Policy is effectively implemented.

Responsibility for the application of this Policy rests with all Woodside employees, contractors and joint venturers engaged in activities under Woodside operational control. Woodside managers are also responsible for promotion of this Policy in non-operated joint ventures.

This Policy will be reviewed regularly and updated as required.

Reviewed by the Woodside Energy Group Ltd Board in December 2024.

APPENDIX B RELEVANT REQUIREMENTS

The below table refers to Commonwealth Legislation related to the Petroleum Activity.

Commonwealth Legislation	Summary
Air Navigation Act 1920 Air Navigation Regulations 1947 Air Navigation (Aerodrome Flight Corridors) Regulations 1994 Air Navigation (Aircraft Engine Emissions) Regulations 1995 Air Navigation (Aircraft Noise) Regulations 1984 Air Navigation (Fuel Spillage) Regulations 1999	This Act relates to the management of air navigation.
Australian Maritime Safety Authority Act 1990	This Act establishes a legal framework for the Australian Maritime Safety Authority (AMSA), which represents the Australian Government and international forums in the development, implementation and enforcement of international standards including those governing ship safety and marine environment protection. AMSA is responsible for administering the Marine Orders in Commonwealth waters.
Australian Radiation Protection and Nuclear Safety Act 1998	This Act relates to the protection of the health and safety of people, and the protection of the environment from the harmful effects of radiation.
Biosecurity Act 2015 Quarantine Regulations 2000 Biosecurity Regulation 2016 Australian Ballast Water Management Requirements 2022 Biosecurity Amendment (Biofouling Management) Regulations 2021	This Act provides the Commonwealth with powers to take measures of quarantine, and implement related programs as are necessary, to prevent the introduction of any plant, animal, organism or matter that could contain anything that could threaten Australia's native flora and fauna or natural environment. The Commonwealth's powers include powers of entry, seizure, detention and disposal. This Act includes mandatory controls on the use of seawater as ballast in ships and the declaration of sea vessels voyaging out of and into Commonwealth waters. The Regulations stipulate that all information regarding the voyage of the vessel and the ballast water is declared correctly to the quarantine officers. The Biofouling Management Regulations requires ships to report information about biofouling management and the voyage history of the ship in the past 12 months through a pre-arrival report.
Environment Protection and Biodiversity Conservation Act 1999 Environment Protection and Biodiversity Conservation Regulations 2000	This Act protects matters of national environmental significance (NES). It streamlines the national environmental assessment and approvals process, protects Australian biodiversity and integrates management of important natural and culturally significant places. Under this Act, actions that may be likely to have a significant impact on matters of NES must be referred to the Minister for the Environment and Water.
Environment Protection (Sea Dumping) Act 1981 Environment Protection (Sea Dumping) Regulations 1983	This Act provides for the protection of the environment by regulating dumping matter into the sea, incineration of waste at sea and placement of artificial reefs.
Industrial Chemicals (Notification and Assessment Act) 1989 Industrial Chemicals (Notification and Assessment) Regulations 1990	This Act creates a national register of industrial chemicals. The Act also provides for restrictions on the use of certain chemicals which could have harmful effects on the environment or health.

Commonwealth Legislation	Summary
National Environment Protection Measures (Implementation) Act 1998 National Environment Protection Measures (Implementation) Regulations 1999	This Act and Regulations provide for the implementation of National Environment Protection Measures (NEPMs) to protect, restore and enhance the quality of the environment in Australia and ensure that the community has access to relevant and meaningful information about pollution. The National Environment Protection Council has made NEPMs relating to ambient air quality, the movement of controlled waste between states and territories, the national pollutant inventory, and used packaging materials.
National Greenhouse and Energy Reporting Act 2007 National Greenhouse and Energy Reporting (Safeguard Mechanism) Rule 2015	This Act and associated Rule establishes the legislative framework for the NGER scheme for reporting greenhouse gas emissions and energy consumption and production by corporations in Australia.
Navigation Act 2012 Marine Order 12 – Construction – subdivision and stability, machinery and electrical installations Marine Order 30 - Prevention of collisions Marine Order 47 – Offshore Industry units Marine Order 57 - Helicopter operations Marine Order 91 - Marine pollution prevention—oil Marine Order 93 - Marine pollution prevention—noxious liquid substances Marine Order 94 - Marine pollution prevention—packaged harmful substances Marine Order 96 - Marine pollution prevention—sewage Marine Order 97 - Marine pollution prevention—air pollution	This Act regulates navigation and shipping including Safety of Life at Sea (SOLAS). The Act will apply to some activities of the FPSO and vessels. This Act is the primary legislation that regulates ship and seafarer safety, shipboard aspects of marine environment protection and pollution prevention.
Offshore Petroleum and Greenhouse Gas Storage Act 2006 Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 Offshore Petroleum and Greenhouse Gas Storage (Resource Management and Administration) Regulations 2011 Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2024	This Act is the principal Act governing offshore petroleum exploration and production in Commonwealth waters. Specific environmental, resource management and safety obligations are set out in the Regulations listed.
Ozone Protection and Synthetic Greenhouse Gas Management Act 1989 Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995	This Act provides for measures to protect ozone in the atmosphere by controlling and ultimately reducing the manufacture, import and export of ozone depleting substances (ODS) and synthetic greenhouse gases, and replacing them with suitable alternatives. The Act will only apply to Woodside if it manufactures, imports or exports ozone depleting substances.
Protection of the Sea (Powers of Intervention) Act 1981	This Act authorises the Commonwealth to take measures for the purpose of protecting the sea from pollution by oil and other noxious substances discharged from ships and provides legal immunity for persons acting under an AMSA direction.
Protection of the Sea (Prevention of Pollution from Ships) Act 1983 Protection of the Sea (Prevention of Pollution from Ships) (Orders) Regulations 1994 Marine Order 91 - Marine pollution prevention—oil Marine Order 93 - Marine pollution prevention—	This Act relates to the protection of the sea from pollution by oil and other harmful substances discharged from ships. Under this Act, discharge of oil or other harmful substances from ships into the sea is an offence. There is also a requirement to keep records of the ships dealing with such substances.

Commonwealth Legislation	Summary
noxious liquid substances Marine Order 94 - Marine pollution prevention—packaged harmful substances Marine Order 95 - Marine pollution prevention—garbage Marine Order 96 - Marine pollution prevention—sewage Maritime Legislation Amendment (Prevention of Air Pollution from Ships) Act 2007 MARPOL Convention	The Act applies to all Australian ships, regardless of their location. It applies to foreign ships operating between 3 nautical miles (nm) off the coast out to the end of the Australian Exclusive Economic Zone (200 nm). It also applies within the 3 nm of the coast where the State/Northern Territory does not have complementary legislation. All the Marine Orders listed, except for Marine Order 95, are enacted under both the Navigation Act 2012 and the Protection of the Sea (Prevention of Pollution from Ships) Act 1983. This Act is an amendment to the Protection of the Sea (Prevention of Pollution from Ships) Act 1983. This amended Act provides the protection of the sea from pollution by oil and other harmful substances discharged from ships.
Protection of the Sea (Harmful Antifouling Systems) Act 2006 Marine Order 98— Marine pollution—anti-fouling systems	This Act relates to the protection of the sea from the effects of harmful anti-fouling systems. It prohibits the application or reapplication of harmful anti-fouling compounds on Australian ships or foreign ships that are in an Australian shipping facility.
Aboriginal and Torres Strait Islander Heritage Protection Act 1984	This Act seeks “to preserve and protect places, areas and objects of particular significance” to Aboriginal people. Under the Section 9 and 10 provisions of the Act, the Minister for the Environment may declare significant Aboriginal areas temporarily or permanently protected if they are considered under threat. Similar declarations regarding Aboriginal objects can be made under Section 12. Under Section 22 of the Act, the contravention of any of these declarations is an offence. Additionally, the discovery of any Aboriginal remains must be reported to the Minister under Section 20. Damage or interference with Aboriginal objects or places is not an offence under
Underwater Cultural Heritage Act 2018 Underwater Cultural Heritage Guidance for Offshore Developments Guidelines to Protect Underwater Cultural Heritage.	The Act prescribes penalties for damage to protected Underwater Cultural Heritage without a permit under Section 30 or in contravention of a permit under Section 28. Protected Underwater Cultural Heritage is prescribed in Section 16 to automatically include the remains and associated artefacts of any vessel or aircraft that has been in Australian waters for 75 years, whether known or unknown. This protection is also extended to Underwater Cultural Heritage in Commonwealth waters specified by the Environment Minister under Section 17. Without a declaration under this section, Aboriginal Underwater Cultural Heritage is not protected under the UCH Act.

APPENDIX C ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT PROTECTED MATTERS SEARCH TOOL RESULTS

Appendix C1: Operational Area PMST Results

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 03-Jun-2025

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	None
National Heritage Places:	None
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	1
Listed Threatened Ecological Communities:	None
Listed Threatened Species:	23
Listed Migratory Species:	36

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	60
Whales and Other Cetaceans:	23
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	1

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	None
Regional Forest Agreements:	None
Nationally Important Wetlands:	None
EPBC Act Referrals:	33
Key Ecological Features (Marine):	2
Biologically Important Areas:	4
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

Commonwealth Marine Area [Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name
Commonwealth Marine Areas (EPBC Act)

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
[Sternula nereis nereis](#) Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area
MAMMAL		
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
REPTILE		
[Aipysurus apraefrontalis](#) Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
[Aipysurus foliosquama](#) Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely to occur within area
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Species or species habitat likely to occur within area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Species or species habitat likely to occur within area
[Dermochelys coriacea](#) Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
[Eretmochelys imbricata](#) Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area
[Natator depressus](#) Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
SHARK		

Scientific Name	Threatened Category	Presence Text
Carcharias taurus (west coast population)		
Grey Nurse Shark (west coast population) [68752]	Vulnerable	Species or species habitat likely to occur within area
Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
Pristis pristis		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron		
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus		
Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini		
Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat likely to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus		
Common Noddy [825]		Species or species habitat may occur within area
Calonectris leucomelas		
Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel		
Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor		
Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Phaethon lepturus](#) White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area
Migratory Marine Species		
[Anoxypristis cuspidata](#) Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat known to occur within area
[Balaenoptera borealis](#) Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
[Balaenoptera edeni](#) Bryde's Whale [35]		Species or species habitat likely to occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Species or species habitat likely to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
[Carcharhinus longimanus](#) Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
[Carcharias taurus](#) Grey Nurse Shark [64469]		Species or species habitat likely to occur within area
[Carcharodon carcharias](#) White Shark, Great White Shark [64470]	Vulnerable	Species or species habitat may occur within area
[Caretta caretta](#) Loggerhead Turtle [1763]	Endangered	Species or species habitat likely to occur within area
[Chelonia mydas](#) Green Turtle [1765]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat likely to occur within area
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Pristis pristis		
Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat may occur within area
Pristis zijsron		
Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus		
Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations)		
Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat may occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat may occur within area
Numenius madagascariensis		
Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area

Other Matters Protected by the EPBC Act

Listed Marine Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat may occur within area
Anous stolidus Common Noddy [825]		Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Species or species habitat may occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat may occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat likely to occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat likely to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
[Numenius madagascariensis](#) Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area
[Phaethon lepturus](#) White-tailed Tropicbird [1014]		Species or species habitat likely to occur within area
[Phaethon lepturus fulvus](#) Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Fish		
[Campichthys tricarinatus](#) Three-keel Pipefish [66192]		Species or species habitat may occur within area
[Choeroichthys brachysoma](#) Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
[Choeroichthys suillus](#) Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
[Corythoichthys flavofasciatus](#) Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
[Cosmocampus banneri](#) Roughridge Pipefish [66206]		Species or species habitat may occur within area
[Doryrhamphus dactyliophorus](#) Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
[Doryrhamphus excisus](#) Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
[Doryrhamphus janssi](#) Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Reptile		
Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat likely to occur within area
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]		Species or species habitat may occur within area
Aipysurus tenuis Brown-lined Sea Snake, Mjoberg's Sea Snake [1121]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Species or species habitat likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Species or species habitat likely to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Species or species habitat likely to occur within area
Ephalophis greyae as Ephalophis greyi Mangrove Sea Snake [93738]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat likely to occur within area
Hydrophis czeblukovi Fine-spined Sea Snake [59233]		Species or species habitat may occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hydrophis macdowelli as Hydrophis mcdowelli		
MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area
Hydrophis major as Disteira major		
Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus		
Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii		
Horned Sea Snake [93509]		Species or species habitat may occur within area
Hydrophis platura as Pelamis platurus		
Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii		
Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Congregation or aggregation known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera borealis		
Sei Whale [34]	Vulnerable	Species or species habitat likely to occur within area
Balaenoptera edeni		
Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus		
Blue Whale [36]	Endangered	Species or species habitat likely to occur within area

Current Scientific Name	Status	Type of Presence
Balaenoptera physalus Fin Whale [37]	Vulnerable	Species or species habitat likely to occur within area
Delphinus delphis Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
Feresa attenuata Pygmy Killer Whale [61]		Species or species habitat may occur within area
Globicephala macrorhynchus Short-finned Pilot Whale [62]		Species or species habitat may occur within area
Grampus griseus Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat may occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat may occur within area
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
All year (Jun - Aug)		
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur

Extra Information

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
Browse to North West Shelf Development, Indian Ocean, WA	2018/8319		Approval
DAVROS MC 3D marine seismic survey northwaet of Dampier, WA	2013/7092		Completed
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260		Completed
Development of Mutineer and Exeter petroleum fields for oil production, Permit	2003/1033		Completed
Project Highclere Cable Lay and Operation	2022/09203		Completed
Controlled action			
Development of Angel gas and condensate field, North West Shelf	2004/1805	Controlled Action	Post-Approval
Development of Browse Basin Gas Fields (Upstream)	2008/4111	Controlled Action	Completed
Equus Gas Fields Development Project, Carnarvon Basin	2012/6301	Controlled Action	Completed
Not controlled action			
'Goodwyn A' Low Pressure Train Project	2003/914	Not Controlled Action	Completed
Maia-Gaea Exploration wells	2000/17	Not Controlled Action	Completed
North Rankin B gas compression facility	2005/2500	Not Controlled Action	Completed
Pipeline System Modifications Project	2000/3	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Searipple gas and condensate field development	2000/89	Not Controlled Action	Completed
sub-sea tieback of Perseus field wells	2004/1326	Not Controlled Action	Completed
Telstra North Rankin Spur Fibre Optic Cable	2016/7836	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Western Flank Gas Development	2005/2464	Not Controlled Action	Completed
Not controlled action (particular manner)			
'Tourmaline' 2D marine seismic survey, permit areas WA-323-P, WA-330-P and WA-32	2005/2282	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in WA 457-P & WA 458-P, North West Shelf, offshore WA	2013/6862	Not Controlled Action (Particular Manner)	Post-Approval
3D sesmic survey	2006/2781	Not Controlled Action (Particular Manner)	Post-Approval
Cue Seismic Survey within WA-359-P, WA-361-P and WA-360-P	2007/3647	Not Controlled Action (Particular Manner)	Post-Approval
Decommissioning of the Legendre facilities	2010/5681	Not Controlled Action (Particular Manner)	Post-Approval
Demeter 3D Seismic Survey, off Dampier, WA	2002/900	Not Controlled Action (Particular Manner)	Post-Approval
Fletcher-Finucane Development, WA26-L and WA191-P	2011/6123	Not Controlled Action (Particular Manner)	Post-Approval
Foxhound 3D Non-Exclusive Marine Seismic Survey	2009/4703	Not Controlled Action (Particular Manner)	Post-Approval
Greater Western Flank Phase 1 gas Development	2011/5980	Not Controlled Action (Particular Manner)	Post-Approval
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2008/4630	Not Controlled Action (Particular Manner)	Post-Approval
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2009/4801	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Offshore Drilling Campaign	2011/5830	Not Controlled Action (Particular Manner)	Post-Approval
Santos Winchester three dimensional seismic survey - WA-323-P & WA-330-P	2011/6107	Not Controlled Action (Particular Manner)	Post-Approval
Tidepole Maz 3D Seismic Survey Campaign	2007/3706	Not Controlled Action (Particular Manner)	Post-Approval
West Panaeus 3D seismic survey	2006/3141	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval

Key Ecological Features [Resource Information]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Ancient coastline at 125 m depth contour	North-west
Glomar Shoals	North-west

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence
Marine Turtles		
Natator depressus		
Flatback Turtle [59257]	Internesting buffer	Known to occur
Seabirds		
Ardenna tenuirostris		
Short-tailed Shearwater [84292]	Breeding	Known to occur
Sharks		
Rhincodon typus		
Whale Shark [66680]	Foraging	Known to occur
Whales		

Scientific Name	Behaviour	Presence
Megaptera novaeangliae		
Humpback Whale [38]	Migration (north and south)	Known to occur

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

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Appendix C2: EMBA PMST Results

EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.

Report created: 03-Jun-2025

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the Administrative Guidelines on Significance.

World Heritage Properties:	2
National Heritage Places:	5
Wetlands of International Importance (Ramsar	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	7
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	102
Listed Migratory Species:	99

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at https://www.dcceew.gov.au/parks-heritage/heritage

A permit may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	49
Commonwealth Heritage Places:	4
Listed Marine Species:	182
Whales and Other Cetaceans:	38
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	15
Habitat Critical to the Survival of Marine Turtles:	4

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	49
Regional Forest Agreements:	None
Nationally Important Wetlands:	8
EPBC Act Referrals:	254
Key Ecological Features (Marine):	13
Biologically Important Areas:	61
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

World Heritage Properties		[Resource Information]
Name	State	Legal Status
Shark Bay, Western Australia	WA	Declared property
The Ningaloo Coast	WA	Declared property

National Heritage Places		[Resource Information]
Name	State	Legal Status
Historic		
Batavia Shipwreck Site and Survivor Camps Area 1629 - Houtman Abrolhos	WA	Listed place
Dirk Hartog Landing Site 1616 - Cape Inscription Area	WA	Listed place
Indigenous		
Dampier Archipelago (including Burrup Peninsula)	WA	Listed place
Natural		
Shark Bay, Western Australia	WA	Listed place
The Ningaloo Coast	WA	Listed place

Commonwealth Marine Area	[Resource Information]

Approval is required for a proposed activity that is located within the Commonwealth Marine Area which has, will have, or is likely to have a significant impact on the environment. Approval may be required for a proposed action taken outside a Commonwealth Marine Area but which has, may have or is likely to have a significant impact on the environment in the Commonwealth Marine Area.

Feature Name
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)
Commonwealth Marine Areas (EPBC Act)

Listed Threatened Ecological Communities [Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text
Banksia Woodlands of the Swan Coastal Plain ecological community	Endangered	Community may occur within area

Listed Threatened Species [Resource Information]

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text
BIRD		
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Aphelocephala leucopsis Southern Whiteface [529]	Vulnerable	Species or species habitat likely to occur within area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat may occur within area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Endangered	Species or species habitat may occur within area
Falco hypoleucos Grey Falcon [929]	Vulnerable	Species or species habitat known to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Leipoa ocellata Malleefowl [934]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica menzbieri Northern Siberian Bar-tailed Godwit, Russkoye Bar-tailed Godwit [86432]	Endangered	Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Malurus leucopterus edouardi White-winged Fairy-wren (Barrow Island), Barrow Island Black-and-white Fairy-wren [26194]	Vulnerable	Species or species habitat likely to occur within area
Malurus leucopterus leucopterus White-winged Fairy-wren (Dirk Hartog Island), Dirk Hartog Black-and-White Fairy-wren [26004]	Vulnerable	Species or species habitat likely to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Pachyptila turtur subantarctica Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Pezoporus occidentalis Night Parrot [59350]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Phaethon rubricauda westralis Red-tailed Tropicbird (Indian Ocean), Indian Ocean Red-tailed Tropicbird [91824]	Endangered	Breeding known to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area
Sternula albifrons Little Tern [82849]	Vulnerable	Breeding known to occur within area
Sternula nereis nereis Australian Fairy Tern [82950]	Vulnerable	Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Turnix varius scintillans Painted Button-quail (Houtman Abrolhos) [82451]	Endangered	Species or species habitat known to occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area
Zanda latirostris listed as Calyptorhynchus latirostris Carnaby's Black Cockatoo, Short-billed Black-cockatoo [87737]	Endangered	Species or species habitat may occur within area
CRUSTACEAN		
Kumonga exleyi Cape Range Remipede [86875]	Vulnerable	Species or species habitat known to occur within area
FISH		
Milyeringa justitia Barrow Cave Gudgeon [86867]	Endangered	Species or species habitat known to occur within area
Milyeringa veritas Cape Range Cave Gudgeon, Blind Gudgeon [66676]	Vulnerable	Species or species habitat known to occur within area
Ophisternon candidum Blind Cave Eel [66678]	Vulnerable	Species or species habitat known to occur within area
INSECT		
Hesperocolletes douglasi Douglas' Broad-headed Bee, Rottnest Bee [66734]	Critically Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
MAMMAL		
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Bettongia lesueur Barrow and Boodie Islands subspecies Boodie, Burrowing Bettong (Barrow and Boodie Islands) [88021]	Vulnerable	Species or species habitat known to occur within area
Bettongia lesueur lesueur Burrowing Bettong (Shark Bay), Boodie [66659]	Vulnerable	Species or species habitat known to occur within area
Bettongia penicillata ogilbyi Woylie [66844]	Endangered	Species or species habitat likely to occur within area
Dasyurus geoffroii Chuditch, Western Quoll [330]	Vulnerable	Species or species habitat may occur within area
Dasyurus hallucatus Northern Quoll, Digul [Gogo-Yimidir], Wijingadda [Dambimangari], Wiminji [Martu] [331]	Endangered	Species or species habitat known to occur within area
Eubalaena australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Isoodon auratus barrowensis Golden Bandicoot (Barrow Island) [66666]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes conspicillatus conspicillatus Spectacled Hare-wallaby (Barrow Island) [66661]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Lagorchestes hirsutus bernieri Rufous Hare-wallaby (Bernier Island) [66662]	Vulnerable	Species or species habitat known to occur within area
Lagorchestes hirsutus Central Australian subspecies Mala, Rufous Hare-Wallaby (Central Australia) [88019]	Endangered	Translocated population known to occur within area
Lagorchestes hirsutus dorreae Rufous Hare-wallaby (Dorre Island) [66663]	Vulnerable	Species or species habitat known to occur within area
Lagostrophus fasciatus fasciatus Banded Hare-wallaby, Merrnine, Marnine, Munning [66664]	Vulnerable	Species or species habitat known to occur within area
Macroderma gigas Ghost Bat [174]	Vulnerable	Species or species habitat likely to occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Breeding known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat known to occur within area
Osphranter robustus isabellinus Barrow Island Wallaroo, Barrow Island Euro [89262]	Vulnerable	Species or species habitat likely to occur within area
Perameles bougainville Shark Bay Bandicoot [278]	Endangered	Species or species habitat known to occur within area
Petrogale lateralis lateralis Black-flanked Rock-wallaby, Mororong, Black-footed Rock Wallaby [66647]	Endangered	Species or species habitat known to occur within area
Pseudomys fieldi Shark Bay Mouse, Djoongari, Alice Springs Mouse [113]	Vulnerable	Species or species habitat likely to occur within area

Scientific Name	Threatened Category	Presence Text
Rhinonicteris aurantia (Pilbara form)		
Pilbara Leaf-nosed Bat [82790]	Vulnerable	Species or species habitat known to occur within area
Setonix brachyurus		
Quokka [229]	Vulnerable	Species or species habitat known to occur within area
Sousa sahulensis		
Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat known to occur within area
PLANT		
Diuris micrantha		
Dwarf Bee-orchid [55082]	Vulnerable	Species or species habitat may occur within area
Minuria tridens		
Minnie Daisy [13753]	Vulnerable	Species or species habitat may occur within area
REPTILE		
Aipysurus apraefrontalis		
Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus foliosquama		
Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus fuscus		
Dusky Sea Snake [1119]	Endangered	Species or species habitat known to occur within area
Caretta caretta		
Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area
Chelonia mydas		
Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Ctenotus zastictus		
Hamelin Ctenotus [25570]	Vulnerable	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Dermochelys coriacea		
Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Egernia stokesii badia		
Western Spiny-tailed Skink, Baudin Island Spiny-tailed Skink [64483]	Endangered	Species or species habitat likely to occur within area
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Lepidochelys olivacea		
Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Liasis olivaceus barroni		
Pilbara Olive Python [66699]	Vulnerable	Species or species habitat likely to occur within area
Natator depressus		
Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
SHARK		
Carcharias taurus (west coast population)		
Grey Nurse Shark (west coast population) [68752]	Vulnerable	Congregation or aggregation known to occur within area
Carcharodon carcharias		
White Shark, Great White Shark [64470]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Centrophorus uyato		
Little Gulper Shark [68446]	Conservation Dependent	Species or species habitat may occur within area
Galeorhinus galeus		
School Shark, Eastern School Shark, Snapper Shark, Tope, Soupfin Shark [68453]	Conservation Dependent	Species or species habitat may occur within area
Glyphis garricki		
Northern River Shark, New Guinea River Shark [82454]	Endangered	Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sphyrna lewini Scalloped Hammerhead [85267]	Conservation Dependent	Species or species habitat known to occur within area

Listed Migratory Species		[Resource Information]
Scientific Name	Threatened Category	Presence Text
Migratory Marine Birds		
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardenna carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
Ardenna grisea Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area
Ardenna pacifica Wedge-tailed Shearwater [84292]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Hydroprogne caspia Caspian Tern [808]		Breeding known to occur within area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
Onychoprion anaethetus Bridled Tern [82845]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area
Sternula albifrons Little Tern [82849]	Vulnerable	Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area

Migratory Marine Species

Scientific Name	Threatened Category	Presence Text
Anoxypristis cuspidata Narrow Sawfish, Knifetooth Sawfish [68448]		Species or species habitat known to occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Balaenoptera edeni Bryde's Whale [35]		Species or species habitat likely to occur within area
Balaenoptera musculus Blue Whale [36]	Endangered	Migration route known to occur within area
Balaenoptera physalus Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Caperea marginata Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
Carcharhinus longimanus Oceanic Whitetip Shark [84108]		Species or species habitat likely to occur within area
Carcharias taurus Grey Nurse Shark [64469]		Congregation or aggregation known to occur within area
Carcharodon carcharias White Shark, Great White Shark [64470]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Dugong dugon Dugong [28]		Breeding known to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Eubalaena australis as Balaena glacialis australis Southern Right Whale [40]	Endangered	Breeding known to occur within area
Isurus oxyrinchus Shortfin Mako, Mako Shark [79073]		Species or species habitat likely to occur within area
Isurus paucus Longfin Mako [82947]		Species or species habitat likely to occur within area
Lamna nasus Porbeagle, Mackerel Shark [83288]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mobula alfredi as Manta alfredi Reef Manta Ray, Coastal Manta Ray [90033]		Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Mobula birostris as Manta birostris Giant Manta Ray [90034]		Species or species habitat known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat known to occur within area
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pristis clavata Dwarf Sawfish, Queensland Sawfish [68447]	Vulnerable	Species or species habitat known to occur within area
Pristis pristis Freshwater Sawfish, Largetooth Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat likely to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Rhincodon typus Whale Shark [66680]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sousa sahulensis as Sousa chinensis Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat known to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area

Migratory Terrestrial Species

Scientific Name	Threatened Category	Presence Text
Cecropis daurica		
Red-rumped Swallow [80610]		Species or species habitat may occur within area
Hirundo rustica		
Barn Swallow [662]		Species or species habitat known to occur within area
Motacilla cinerea		
Grey Wagtail [642]		Species or species habitat may occur within area
Motacilla flava		
Yellow Wagtail [644]		Species or species habitat may occur within area
Migratory Wetlands Species		
Actitis hypoleucos		
Common Sandpiper [59309]		Species or species habitat known to occur within area
Arenaria interpres		
Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area
Calidris acuminata		
Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba		
Sanderling [875]		Roosting known to occur within area
Calidris canutus		
Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area
Calidris ferruginea		
Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area
Calidris melanotos		
Pectoral Sandpiper [858]		Species or species habitat known to occur within area
Calidris ruficollis		
Red-necked Stint [860]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area

Scientific Name	Threatened Category	Presence Text
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area
Thalasseus bergii Greater Crested Tern [83000]		Breeding known to occur within area
Tringa brevipes Grey-tailed Tattler [851]		Roosting known to occur within area
Tringa glareola Wood Sandpiper [829]		Species or species habitat known to occur within area
Tringa nebularia Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area
Tringa stagnatilis Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area
Tringa totanus Common Redshank, Redshank [835]		Roosting known to occur within area
Xenus cinereus Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area

Other Matters Protected by the EPBC Act

Commonwealth Lands [Resource Information]

The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.

Commonwealth Land Name	State
Defence	
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50128]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50126]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50124]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50127]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50125]	WA
Defence - EXMOUTH ADMIN & HF TRANSMITTING [50129]	WA
Defence - EXMOUTH VLF TRANSMITTER STATION [50122]	WA
Defence - EXMOUTH VLF TRANSMITTER STATION [50123]	WA
Defence - LEARMONTH - AIR WEAPONS RANGE [50193]	WA
Defence - LEARMONTH RADAR SITE - TWIN TANKS EXMOUTH [50002]	WA
Defence - LEARMONTH RADAR SITE - VLAMING HEAD EXMOUTH [50001]	WA
Unknown	
Commonwealth Land - [51884]	WA
Commonwealth Land - [51449]	WA
Commonwealth Land - [51471]	WA
Commonwealth Land - [51472]	WA
Commonwealth Land - [51458]	WA
Commonwealth Land - [51476]	WA
Commonwealth Land - [51473]	WA
Commonwealth Land - [51474]	WA
Commonwealth Land - [51442]	WA
Commonwealth Land - [51465]	WA

Commonwealth Land Name	State
Commonwealth Land - [51466]	WA
Commonwealth Land - [51469]	WA
Commonwealth Land - [51464]	WA
Commonwealth Land - [51468]	WA
Commonwealth Land - [51463]	WA
Commonwealth Land - [51462]	WA
Commonwealth Land - [51461]	WA
Commonwealth Land - [51460]	WA
Commonwealth Land - [51467]	WA
Commonwealth Land - [51456]	WA
Commonwealth Land - [51451]	WA
Commonwealth Land - [51450]	WA
Commonwealth Land - [51453]	WA
Commonwealth Land - [51470]	WA
Commonwealth Land - [51475]	WA
Commonwealth Land - [51459]	WA
Commonwealth Land - [51452]	WA
Commonwealth Land - [51477]	WA
Commonwealth Land - [52236]	WA
Commonwealth Land - [51443]	WA
Commonwealth Land - [51446]	WA
Commonwealth Land - [51448]	WA
Commonwealth Land - [51445]	WA
Commonwealth Land - [51444]	WA
Commonwealth Land - [51447]	WA
Commonwealth Land - [51457]	WA
Commonwealth Land - [51454]	WA

Commonwealth Land Name	State
Commonwealth Land - [51455]	WA

Commonwealth Heritage Places [Resource Information]

Name	State	Status
Natural		
Learmonth Air Weapons Range Facility	WA	Listed place
Mermaid Reef - Rowley Shoals	WA	Listed place
Ningaloo Marine Area - Commonwealth Waters	WA	Listed place
Scott Reef and Surrounds - Commonwealth Area	EXT	Listed place

Listed Marine Species [Resource Information]

Scientific Name	Threatened Category	Presence Text
Bird		
Actitis hypoleucos Common Sandpiper [59309]		Species or species habitat known to occur within area
Anous stolidus Common Noddy [825]		Species or species habitat likely to occur within area
Anous tenuirostris melanops Australian Lesser Noddy [26000]	Vulnerable	Breeding known to occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area
Ardenna carneipes as Puffinus carneipes Flesh-footed Shearwater, Fleshy-footed Shearwater [82404]		Species or species habitat likely to occur within area
Ardenna grisea as Puffinus griseus Sooty Shearwater [82651]	Vulnerable	Species or species habitat may occur within area
Ardenna pacifica as Puffinus pacificus Wedge-tailed Shearwater [84292]		Breeding known to occur within area
Arenaria interpres Ruddy Turnstone [872]	Vulnerable	Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Bubulcus ibis as Ardea ibis Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area
Calidris acuminata Sharp-tailed Sandpiper [874]	Vulnerable	Roosting known to occur within area
Calidris alba Sanderling [875]		Roosting known to occur within area
Calidris canutus Red Knot, Knot [855]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat known to occur within area overfly marine area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat known to occur within area overfly marine area
Calidris ruficollis Red-necked Stint [860]		Roosting known to occur within area overfly marine area
Calidris tenuirostris Great Knot [862]	Vulnerable	Roosting known to occur within area overfly marine area
Calonectris leucomelas Streaked Shearwater [1077]		Species or species habitat known to occur within area
Cecropis daurica as Hirundo daurica Red-rumped Swallow [80610]		Species or species habitat may occur within area overfly marine area

Scientific Name	Threatened Category	Presence Text
Chalcites osculans as Chrysococcyx osculans Black-eared Cuckoo [83425]		Species or species habitat known to occur within area overfly marine area
Charadrius bicinctus Double-banded Plover [895]		Roosting known to occur within area overfly marine area
Charadrius leschenaultii Greater Sand Plover, Large Sand Plover [877]	Vulnerable	Species or species habitat known to occur within area
Charadrius mongolus Lesser Sand Plover, Mongolian Plover [879]	Endangered	Roosting known to occur within area
Charadrius ruficapillus Red-capped Plover [881]		Roosting known to occur within area overfly marine area
Charadrius veredus Oriental Plover, Oriental Dotterel [882]		Species or species habitat may occur within area overfly marine area
Chroicocephalus novaehollandiae as Larus novaehollandiae Silver Gull [82326]		Breeding known to occur within area
Diomedea amsterdamensis Amsterdam Albatross [64405]	Endangered	Species or species habitat may occur within area
Diomedea dabbenena Tristan Albatross [66471]	Endangered	Species or species habitat may occur within area
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Species or species habitat may occur within area
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Scientific Name	Threatened Category	Presence Text
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Species or species habitat may occur within area
Fregata ariel Lesser Frigatebird, Least Frigatebird [1012]		Species or species habitat known to occur within area
Fregata minor Great Frigatebird, Greater Frigatebird [1013]		Species or species habitat may occur within area
Gallinago megala Swinhoe's Snipe [864]		Roosting likely to occur within area overfly marine area
Gallinago stenura Pin-tailed Snipe [841]		Roosting likely to occur within area overfly marine area
Glareola maldivarum Oriental Pratincole [840]		Species or species habitat may occur within area overfly marine area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Halobaena caerulea Blue Petrel [1059]	Vulnerable	Species or species habitat may occur within area
Himantopus himantopus Pied Stilt, Black-winged Stilt [870]		Roosting known to occur within area overfly marine area
Hirundo rustica Barn Swallow [662]		Species or species habitat known to occur within area overfly marine area
Hydroprogne caspia as Sterna caspia Caspian Tern [808]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Larus pacificus Pacific Gull [811]		Breeding known to occur within area
Limnodromus semipalmatus Asian Dowitcher [843]	Vulnerable	Species or species habitat known to occur within area overfly marine area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat known to occur within area
Limosa limosa Black-tailed Godwit [845]	Endangered	Roosting known to occur within area overfly marine area
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Species or species habitat may occur within area
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area overfly marine area
Motacilla cinerea Grey Wagtail [642]		Species or species habitat may occur within area overfly marine area
Motacilla flava Yellow Wagtail [644]		Species or species habitat may occur within area overfly marine area
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat known to occur within area

Scientific Name	Threatened Category	Presence Text
Numenius minutus Little Curlew, Little Whimbrel [848]		Roosting likely to occur within area overfly marine area
Numenius phaeopus Whimbrel [849]		Roosting known to occur within area
Onychoprion anaethetus as Sterna anaethetus Bridled Tern [82845]		Breeding known to occur within area
Onychoprion fuscatus as Sterna fuscata Sooty Tern [90682]		Breeding known to occur within area
Pachyptila turtur Fairy Prion [1066]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Papasula abbotti Abbott's Booby [59297]	Endangered	Species or species habitat may occur within area
Pelagodroma marina White-faced Storm-Petrel [1016]		Breeding known to occur within area
Phaethon lepturus White-tailed Tropicbird [1014]		Breeding known to occur within area
Phaethon lepturus fulvus Christmas Island White-tailed Tropicbird, Golden Bosunbird [26021]	Endangered	Species or species habitat may occur within area
Phaethon rubricauda Red-tailed Tropicbird [994]		Breeding known to occur within area
Phalacrocorax fuscescens Black-faced Cormorant [59660]		Breeding likely to occur within area
Phalaropus lobatus Red-necked Phalarope [838]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
Phoebetria fusca Sooty Albatross [1075]	Vulnerable	Species or species habitat may occur within area
Pluvialis fulva Pacific Golden Plover [25545]		Roosting known to occur within area
Pluvialis squatarola Grey Plover [865]	Vulnerable	Roosting known to occur within area overfly marine area
Pterodroma macroptera Great-winged Petrel [1035]		Foraging, feeding or related behaviour known to occur within area
Pterodroma mollis Soft-plumaged Petrel [1036]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Puffinus assimilis Little Shearwater [59363]		Breeding known to occur within area
Puffinus huttoni Hutton's Shearwater [1025]		Foraging, feeding or related behaviour known to occur within area
Recurvirostra novaehollandiae Red-necked Avocet [871]		Roosting known to occur within area overfly marine area
Rostratula australis as Rostratula benghalensis (sensu lato) Australian Painted Snipe [77037]	Endangered	Species or species habitat likely to occur within area overfly marine area
Stercorarius antarcticus as Catharacta skua Brown Skua [85039]		Species or species habitat may occur within area
Sterna dougallii Roseate Tern [817]		Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Sternula albifrons as Sterna albifrons Little Tern [82849]	Vulnerable	Breeding known to occur within area
Sternula nereis as Sterna nereis Fairy Tern [82949]		Breeding known to occur within area
Sula leucogaster Brown Booby [1022]		Breeding known to occur within area
Thalassarche carteri Indian Yellow-nosed Albatross [64464]	Vulnerable	Species or species habitat likely to occur within area
Thalassarche cauta Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Thalassarche impavida Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Species or species habitat may occur within area
Thalassarche melanophris Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Species or species habitat may occur within area
Thalasseus bengalensis as Sterna bengalensis Lesser Crested Tern [66546]		Breeding known to occur within area
Thalasseus bergii as Sterna bergii Greater Crested Tern [83000]		Breeding known to occur within area
Thinornis cucullatus as Thinornis rubricollis Hooded Plover, Hooded Dotterel [87735]		Species or species habitat known to occur within area overfly marine area
Tringa brevipes as Heteroscelus brevipes Grey-tailed Tattler [851]		Roosting known to occur within area

Scientific Name	Threatened Category	Presence Text
[Tringa glareola](#) Wood Sandpiper [829]		Species or species habitat known to occur within area overfly marine area
[Tringa nebularia](#) Common Greenshank, Greenshank [832]	Endangered	Species or species habitat known to occur within area overfly marine area
[Tringa stagnatilis](#) Marsh Sandpiper, Little Greenshank [833]		Roosting known to occur within area overfly marine area
[Tringa totanus](#) Common Redshank, Redshank [835]		Roosting known to occur within area overfly marine area
[Xenus cinereus](#) Terek Sandpiper [59300]	Vulnerable	Roosting known to occur within area overfly marine area
Fish		
[Acentronura australe](#) Southern Pygmy Pipehorse [66185]		Species or species habitat may occur within area
[Acentronura larsonae](#) Helen's Pygmy Pipehorse [66186]		Species or species habitat may occur within area
[Bhanotia fasciolata](#) Corrugated Pipefish, Barbed Pipefish [66188]		Species or species habitat may occur within area
[Bulbonaricus brauni](#) Braun's Pughead Pipefish, Pug-headed Pipefish [66189]		Species or species habitat may occur within area
[Campichthys galei](#) Gale's Pipefish [66191]		Species or species habitat may occur within area
[Campichthys tricarinatus](#) Three-keel Pipefish [66192]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys latispinosus Muiron Island Pipefish [66196]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within area
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Cosmocampus banneri Roughridge Pipefish [66206]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Doryrhamphus multiannulatus Many-banded Pipefish [66717]		Species or species habitat may occur within area
Doryrhamphus negrosensis Flagtail Pipefish, Masthead Island Pipefish [66213]		Species or species habitat may occur within area
Festucalex scalaris Ladder Pipefish [66216]		Species or species habitat may occur within area
Filicampus tigris Tiger Pipefish [66217]		Species or species habitat may occur within area
Halicampus brocki Brock's Pipefish [66219]		Species or species habitat may occur within area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Haliichthys taeniophorus Ribboned Pipehorse, Ribboned Seadragon [66226]		Species or species habitat may occur within area
Heraldia nocturna Upside-down Pipefish, Eastern Upside-down Pipefish, Eastern Upside-down Pipefish [66227]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippocampus angustus Western Spiny Seahorse, Narrow-bellied Seahorse [66234]		Species or species habitat may occur within area
Hippocampus breviceps Short-head Seahorse, Short-snouted Seahorse [66235]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus spinosissimus Hedgehog Seahorse [66239]		Species or species habitat may occur within area
Hippocampus subelongatus West Australian Seahorse [66722]		Species or species habitat may occur within area
Hippocampus trimaculatus Three-spot Seahorse, Low-crowned Seahorse, Flat-faced Seahorse [66720]		Species or species habitat may occur within area
Histiogamphelus cristatus Rhino Pipefish, Macleay's Crested Pipefish, Ring-back Pipefish [66243]		Species or species habitat may occur within area
Lissocampus caudalis Australian Smooth Pipefish, Smooth Pipefish [66249]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Lissocampus fatiloquus Prophet's Pipefish [66250]		Species or species habitat may occur within area
Lissocampus runa Javelin Pipefish [66251]		Species or species habitat may occur within area
Maroubra perserrata Sawtooth Pipefish [66252]		Species or species habitat may occur within area
Micrognathus micronotopterus Tidepool Pipefish [66255]		Species or species habitat may occur within area
Mitotichthys meraculus Western Crested Pipefish [66259]		Species or species habitat may occur within area
Nannocampus subosseus Bonyhead Pipefish, Bony-headed Pipefish [66264]		Species or species habitat may occur within area
Phoxocampus belcheri Black Rock Pipefish [66719]		Species or species habitat may occur within area
Phycodurus eques Leafy Seadragon [66267]		Species or species habitat may occur within area
Phyllopteryx taeniolatus Common Seadragon, Weedy Seadragon [66268]		Species or species habitat may occur within area
Pugnaso curtirostris Pugnose Pipefish, Pug-nosed Pipefish [66269]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Solegnathus lettiensis Gunther's Pipehorse, Indonesian Pipefish [66273]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Stigmatopora argus Spotted Pipefish, Gulf Pipefish, Peacock Pipefish [66276]		Species or species habitat may occur within area
Stigmatopora nigra Widebody Pipefish, Wide-bodied Pipefish, Black Pipefish [66277]		Species or species habitat may occur within area
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area
Urocampus carinirostris Hairy Pipefish [66282]		Species or species habitat may occur within area
Vanacampus margaritifer Mother-of-pearl Pipefish [66283]		Species or species habitat may occur within area
Vanacampus phillipi Port Phillip Pipefish [66284]		Species or species habitat may occur within area
Vanacampus poecilolaemus Longsnout Pipefish, Australian Long-snout Pipefish, Long-snouted Pipefish [66285]		Species or species habitat may occur within area
Mammal		

Scientific Name	Threatened Category	Presence Text
Arctocephalus forsteri Long-nosed Fur-seal, New Zealand Fur-seal [20]		Species or species habitat may occur within area
Dugong dugon Dugong [28]		Breeding known to occur within area
Neophoca cinerea Australian Sea-lion, Australian Sea Lion [22]	Endangered	Breeding known to occur within area
Reptile		
Aipysurus apraefrontalis Short-nosed Sea Snake, Short-nosed Seasnake [1115]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus duboisii Dubois' Sea Snake, Dubois' Seasnake, Reef Shallows Sea Snake [1116]		Species or species habitat may occur within area
Aipysurus foliosquama Leaf-scaled Sea Snake, Leaf-scaled Seasnake [1118]	Critically Endangered	Species or species habitat known to occur within area
Aipysurus fuscus Dusky Sea Snake [1119]	Endangered	Species or species habitat known to occur within area
Aipysurus laevis Olive Sea Snake, Olive-brown Sea Snake [1120]		Species or species habitat may occur within area
Aipysurus mosaicus as Aipysurus eydouxii Mosaic Sea Snake [87261]		Species or species habitat may occur within area
Aipysurus pooleorum Shark Bay Sea Snake [66061]		Species or species habitat may occur within area
Aipysurus tenuis Brown-lined Sea Snake, Mjoberg's Sea Snake [1121]		Species or species habitat may occur within area
Caretta caretta Loggerhead Turtle [1763]	Endangered	Breeding known to occur within area

Scientific Name	Threatened Category	Presence Text
Chelonia mydas Green Turtle [1765]	Vulnerable	Breeding known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat may occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour known to occur within area
Emydocephalus annulatus Eastern Turtle-headed Sea Snake [1125]		Species or species habitat may occur within area
Ephalophis greyae as Ephalophis greyi Mangrove Sea Snake [93738]		Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Breeding known to occur within area
Hydrelaps darwiniensis Port Darwin Sea Snake, Black-ringed Mangrove Sea Snake [1100]		Species or species habitat may occur within area
Hydrophis czeblukovi Fine-spined Sea Snake [59233]		Species or species habitat may occur within area
Hydrophis elegans Elegant Sea Snake, Bar-bellied Sea Snake [1104]		Species or species habitat may occur within area
Hydrophis kingii as Disteira kingii Spectacled Sea Snake [93511]		Species or species habitat may occur within area
Hydrophis macdowelli as Hydrophis mcdowelli MacDowell's Sea Snake, Small-headed Sea Snake, [75601]		Species or species habitat may occur within area

Scientific Name	Threatened Category	Presence Text
Hydrophis major as Disteira major Olive-headed Sea Snake [93512]		Species or species habitat may occur within area
Hydrophis ornatus Spotted Sea Snake, Ornate Reef Sea Snake [1111]		Species or species habitat may occur within area
Hydrophis peronii as Acalyptophis peronii Horned Sea Snake [93509]		Species or species habitat may occur within area
Hydrophis platura as Pelamis platurus Yellow-bellied Sea Snake [93746]		Species or species habitat may occur within area
Hydrophis stokesii as Astrotia stokesii Stokes' Sea Snake [93510]		Species or species habitat may occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Breeding known to occur within area

Whales and Other Cetaceans		[Resource Information]
Current Scientific Name	Status	Type of Presence
Mammal		
Balaenoptera acutorostrata Minke Whale [33]		Species or species habitat may occur within area
Balaenoptera bonaerensis Antarctic Minke Whale, Dark-shoulder Minke Whale [67812]		Species or species habitat likely to occur within area
Balaenoptera borealis Sei Whale [34]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area

Current Scientific Name	Status	Type of Presence
[Balaenoptera edeni](#) Bryde's Whale [35]		Species or species habitat likely to occur within area
[Balaenoptera musculus](#) Blue Whale [36]	Endangered	Migration route known to occur within area
[Balaenoptera physalus](#) Fin Whale [37]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area
[Caperea marginata](#) Pygmy Right Whale [39]		Foraging, feeding or related behaviour may occur within area
[Delphinus delphis](#) Common Dolphin, Short-beaked Common Dolphin [60]		Species or species habitat may occur within area
[Eubalaena australis](#) Southern Right Whale [40]	Endangered	Breeding known to occur within area
[Feresa attenuata](#) Pygmy Killer Whale [61]		Species or species habitat may occur within area
[Globicephala macrorhynchus](#) Short-finned Pilot Whale [62]		Species or species habitat may occur within area
[Globicephala melas](#) Long-finned Pilot Whale [59282]		Species or species habitat may occur within area
[Grampus griseus](#) Risso's Dolphin, Grampus [64]		Species or species habitat may occur within area
[Indopacetus pacificus](#) Longman's Beaked Whale [72]		Species or species habitat may occur within area

Current Scientific Name	Status	Type of Presence
Kogia breviceps Pygmy Sperm Whale [57]		Species or species habitat may occur within area
Kogia sima Dwarf Sperm Whale [85043]		Species or species habitat may occur within area
Lagenodelphis hosei Fraser's Dolphin, Sarawak Dolphin [41]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]		Breeding known to occur within area
Mesoplodon bowdoini Andrew's Beaked Whale [73]		Species or species habitat may occur within area
Mesoplodon densirostris Blainville's Beaked Whale, Dense-beaked Whale [74]		Species or species habitat may occur within area
Mesoplodon ginkgodens Gingko-toothed Beaked Whale, Gingko-toothed Whale, Gingko Beaked Whale [59564]		Species or species habitat may occur within area
Mesoplodon grayi Gray's Beaked Whale, Scamperdown Whale [75]		Species or species habitat may occur within area
Mesoplodon layardii Strap-toothed Beaked Whale, Strap-toothed Whale, Layard's Beaked Whale [25556]		Species or species habitat may occur within area
Mesoplodon mirus True's Beaked Whale [54]		Species or species habitat may occur within area
Orcaella heinsohni Australian Snubfin Dolphin [81322]	Vulnerable	Species or species habitat known to occur within area

Current Scientific Name	Status	Type of Presence
Orcinus orca Killer Whale, Orca [46]		Species or species habitat may occur within area
Peponocephala electra Melon-headed Whale [47]		Species or species habitat may occur within area
Physeter macrocephalus Sperm Whale [59]		Species or species habitat may occur within area
Pseudorca crassidens False Killer Whale [48]		Species or species habitat likely to occur within area
Sousa sahulensis Australian Humpback Dolphin [87942]	Vulnerable	Species or species habitat known to occur within area
Stenella attenuata Spotted Dolphin, Pantropical Spotted Dolphin [51]		Species or species habitat may occur within area
Stenella coeruleoalba Striped Dolphin, Euphrosyne Dolphin [52]		Species or species habitat may occur within area
Stenella longirostris Long-snouted Spinner Dolphin [29]		Species or species habitat may occur within area
Steno bredanensis Rough-toothed Dolphin [30]		Species or species habitat may occur within area
Tursiops aduncus Indian Ocean Bottlenose Dolphin, Spotted Bottlenose Dolphin [68418]		Species or species habitat likely to occur within area
Tursiops aduncus (Arafura/Timor Sea populations) Spotted Bottlenose Dolphin (Arafura/Timor Sea populations) [78900]		Species or species habitat known to occur within area

Current Scientific Name	Status	Type of Presence
Tursiops truncatus s. str. Bottlenose Dolphin [68417]		Species or species habitat may occur within area
Ziphius cavirostris Cuvier's Beaked Whale, Goose-beaked Whale [56]		Species or species habitat may occur within area

Australian Marine Parks	[Resource Information]
Park Name	Zone & IUCN Categories
Abrolhos	Habitat Protection Zone (IUCN IV)
Carnarvon Canyon	Habitat Protection Zone (IUCN IV)
Gascoyne	Habitat Protection Zone (IUCN IV)
Gascoyne	Habitat Protection Zone (IUCN IV)
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)
Argo-Rowley Terrace	Multiple Use Zone (IUCN VI)
Gascoyne	Multiple Use Zone (IUCN VI)
Montebello	Multiple Use Zone (IUCN VI)
Shark Bay	Multiple Use Zone (IUCN VI)
Mermaid Reef	National Park Zone (IUCN II)
Ningaloo	National Park Zone (IUCN II)
Ningaloo	Recreational Use Zone (IUCN IV)
Ningaloo	Recreational Use Zone (IUCN IV)
Abrolhos	Special Purpose Zone (IUCN VI)
Argo-Rowley Terrace	Special Purpose Zone (Trawl) (IUCN VI)

Habitat Critical to the Survival of Marine Turtles		[Resource Information]
Scientific Name	Behaviour	Presence
All year (Jun - Aug)		

Scientific Name	Behaviour	Presence
Natator depressus		
Flatback Turtle [59257]	Nesting	Known to occur
Nov-Feb		
Caretta caretta		
Loggerhead Turtle [1763]	Nesting	Known to occur
Oct - Feb		
Eretmochelys imbricata		
Hawksbill Turtle [1766]	Nesting	Known to occur
Oct - Mar		
Chelonia mydas		
Green Turtle [1765]	Nesting	Known to occur

Extra Information

State and Territory Reserves		[Resource Information]
Protected Area Name	Reserve Type	State
Airlie Island	Nature Reserve	WA
Barrow Island	Nature Reserve	WA
Barrow Island	Marine Park	WA
Barrow Island	Marine Management Area	WA
Bernier And Dorre Islands	Nature Reserve	WA
Bessieres Island	Nature Reserve	WA
Boodie, Double Middle Islands	Nature Reserve	WA
Bundegi Coastal Park	5(1)(h) Reserve	WA
Cape Range	National Park	WA
Cape Range	Conservation Park	WA
Cape Range (South)	National Park	WA
Dirk Hartog Island	National Park	WA
Great Sandy Island	Nature Reserve	WA
Great Sandy Island	Nature Reserve	WA

Protected Area Name	Reserve Type	State
Houtman Abrolhos Islands	National Park	WA
Jurabi Coastal Park	5(1)(h) Reserve	WA
Koks Island	Nature Reserve	WA
Locker Island	Nature Reserve	WA
Lowendal Islands	Nature Reserve	WA
Montebello Islands	Conservation Park	WA
Montebello Islands	Marine Park	WA
Montebello Islands	Conservation Park	WA
Muiron Islands	Nature Reserve	WA
Muiron Islands	Marine Management Area	WA
Ningaloo	Marine Park	WA
North Sandy Island	Nature Reserve	WA
Nyingguulu (Ningaloo) Coastal Reserve	5(1)(h) Reserve	WA
Rottnest Island	State Reserve	WA
Rottnest Island	State Reserve	WA
Round Island	Nature Reserve	WA
Rowley Shoals	Marine Park	WA
Scott Reef	Nature Reserve	WA
Serrurier Island	Nature Reserve	WA
Shark Bay	Marine Park	WA
Thevenard Island	Nature Reserve	WA
Thevenard Island	Nature Reserve	WA
Unnamed WA36909	5(1)(h) Reserve	WA
Unnamed WA36910	5(1)(h) Reserve	WA
Unnamed WA36915	Nature Reserve	WA
Unnamed WA37338	5(1)(h) Reserve	WA

Protected Area Name	Reserve Type	State
Unnamed WA37383	5(1)(h) Reserve	WA
Unnamed WA37500	5(1)(g) Reserve	WA
Unnamed WA40322	5(1)(h) Reserve	WA
Unnamed WA40877	5(1)(h) Reserve	WA
Unnamed WA44665	5(1)(h) Reserve	WA
Unnamed WA44667	5(1)(h) Reserve	WA
Unnamed WA44688	5(1)(h) Reserve	WA
Victor Island	Nature Reserve	WA
Y Island	Nature Reserve	WA

Nationally Important Wetlands	[Resource Information]
Wetland Name	State
Bundera Sinkhole	WA
Cape Range Subterranean Waterways	WA
Exmouth Gulf East	WA
Lake MacLeod	WA
Learmonth Air Weapons Range - Saline Coastal Flats	WA
Mermaid Reef	EXT
Rottnest Island Lakes	WA
Shark Bay East	WA

EPBC Act Referrals			[Resource Information]
Title of referral	Reference	Referral Outcome	Assessment Status
2 geotechnical surveys - preliminary and final	2006/2886		Completed
3D Seismic Survey in the Carnarvon Bsin on the North West Shelf	2002/778		Completed
Babylon 3D Marine Seismic Survey, Commonwealth Waters, nr Exmouth WA	2013/7081		Completed
Browse to North West Shelf Development, Indian Ocean, WA	2018/8319		Approval

Title of referral	Reference	Referral Outcome	Assessment Status
DAVROS MC 3D marine seismic survey northwaet of Dampier, WA	2013/7092		Completed
Deep Water Northwest Shelf 2D Seismic Survey	2007/3260		Completed
Development of Mutineer and Exeter petroleum fields for oil production, Permit	2003/1033		Completed
Gorgon Gas Development	2003/1294		Post-Approval
Ningaloo Lighthouse Development, 17km north west Exmouth, Western Australia	2020/8693		Post-Approval
Offshore Dredge Spoil Disposal - Mardie Project	2024/10054		Referral Decision
Optimised Mardie Project ? Additional Triodia Grassland Habitat Clearing	2024/10094		Referral Decision
Optimised Mardie Solar Salt Project	2022/9169		Post-Approval
Project Highclere Cable Lay and Operation	2022/09203		Completed
Action clearly unacceptable			
Highlands 3D Marine Seismic Survey	2012/6680	Action Clearly Unacceptable	Completed
Controlled action			
'Van Gogh' Petroleum Field Development	2007/3213	Controlled Action	Post-Approval
2-D seismic survey Scott Reef	2000/125	Controlled Action	Post-Approval
Balmoral South Iron Ore Mine	2008/4236	Controlled Action	Post-Approval
Binowee Iron Ore Project	2001/366	Controlled Action	Proposed Decision
Boating Facility	2002/830	Controlled Action	Completed
Browse FLNG Development, Commonwealth Waters	2013/7079	Controlled Action	Post-Approval
Construct and operate LNG & domestic gas plant including onshore and offshore facilities - Wheatston	2008/4469	Controlled Action	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Construction and operation of a Solar Salt Project, SW Onslow, WA	2016/7793	Controlled Action	Assessment Approach
Develop Jansz-Io deepwater gas field in Permit Areas WA-18-R, WA-25-R and WA-26-	2005/2184	Controlled Action	Post-Approval
Development of Angel gas and condensate field, North West Shelf	2004/1805	Controlled Action	Post-Approval
Development of Browse Basin Gas Fields (Upstream)	2008/4111	Controlled Action	Completed
Development of Coniston/Novara fields within the Exmouth Sub-basin	2011/5995	Controlled Action	Post-Approval
Development of Stybarrow petroleum field incl drilling and facility installation	2004/1469	Controlled Action	Post-Approval
Echo-Yodel Production Wells	2000/11	Controlled Action	Post-Approval
Enfield full field development	2001/257	Controlled Action	Post-Approval
Equus Gas Fields Development Project, Carnarvon Basin	2012/6301	Controlled Action	Completed
Eramurra Industrial Salt Project	2021/9027	Controlled Action	Assessment Approach
Eramurra Industrial Salt Project, near Karratha, WA	2019/8448	Controlled Action	Completed
Gorgon Gas Development 4th Train Proposal	2011/5942	Controlled Action	Post-Approval
Gorgon Gas Revised Development	2008/4178	Controlled Action	Post-Approval
Greater Enfield (Vincent) Development	2005/2110	Controlled Action	Post-Approval
Greater Gorgon Development - Optical Fibre Cable, Mainland to Barrow Island	2005/2141	Controlled Action	Completed
Light Crude Oil Production	2001/365	Controlled Action	Post-Approval
Mardie Project, 80 km south west of Karratha, WA	2018/8236	Controlled Action	Post-Approval
Mauds Landing Marina	2000/98	Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			
Nava-1 Cable System	2001/510	Controlled Action	Completed
Pluto Gas Project	2005/2258	Controlled Action	Completed
Pluto Gas Project Including Site B	2006/2968	Controlled Action	Post-Approval
Proposed West Pilbara Iron Ore Project	2009/4706	Controlled Action	Post-Approval
Pyrenees Oil Fields Development	2005/2034	Controlled Action	Post-Approval
Simpson Development	2000/59	Controlled Action	Completed
Simpson Oil Field Development	2001/227	Controlled Action	Post-Approval
The Scarborough Project - FLNG & assoc subsea infrastructure, Carnarvon Basin	2013/6811	Controlled Action	Post-Approval
Torosa South Initial Appraisal Drilling	2007/3500	Controlled Action	Completed
Vincent Appraisal Well	2000/22	Controlled Action	Post-Approval
Yardie Creek Road Realignment Project	2021/8967	Controlled Action	Assessment Approach
Not controlled action			
'Goodwyn A' Low Pressure Train Project	2003/914	Not Controlled Action	Completed
'Van Gogh' Oil Appraisal Drilling Program, Exploration Permit Area WA-155-P(1)	2006/3148	Not Controlled Action	Completed
3D marine seismic survey in WA 314P and WA 315P	2004/1927	Not Controlled Action	Completed
Airlie Island soil and groundwater investigations, Exmouth Gulf, offshore Pilbara coast	2014/7250	Not Controlled Action	Completed
APX-West Fibre-optic telecommunications cable system, WA to Singapore	2013/7102	Not Controlled Action	Completed
archaeological surveys & excavation at historic sites, Cape Inscription	2006/3027	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Baniyas-1 Exploration Well, EP-424, near Onslow	2007/3282	Not Controlled Action	Completed
Barrow Island 2D Seismic survey	2006/2667	Not Controlled Action	Completed
Boating Facility	2002/832	Not Controlled Action	Completed
Bollinger 2D Seismic Survey 200km North of North West Cape WA	2004/1868	Not Controlled Action	Completed
Bultaco-2, Laverda-2, Laverda-3 and Montesa-2 Appraisal Wells	2000/103	Not Controlled Action	Completed
Carnarvon 3D Marine Seismic Survey	2004/1890	Not Controlled Action	Completed
Cazadores 2D seismic survey	2004/1720	Not Controlled Action	Completed
Construction and operation of an unmanned sea platform and connecting pipeline to Varanus Island for	2004/1703	Not Controlled Action	Completed
Controlled Source Electromagnetic Survey	2007/3262	Not Controlled Action	Completed
Development of Halyard Field off the west coast of WA	2010/5611	Not Controlled Action	Completed
Differential Global Positioning System (DGPS)	2001/445	Not Controlled Action	Completed
Drilling of an exploration well Gats-1 in Permit Area WA-261-P	2004/1701	Not Controlled Action	Completed
Drilling of exploration wells, Permit areas WA-301-P to WA-305-P	2002/769	Not Controlled Action	Completed
Eagle-1 Exploration Drilling, North West Shelf, WA	2019/8578	Not Controlled Action	Completed
Echo A Development WA-23-L, WA-24-L	2005/2042	Not Controlled Action	Completed
Expansion of the Sino Iron Ore Mine and export facilities, Cape Preston, WA	2017/7862	Not Controlled Action	Completed
Expansion Proposal, Mineralogy Cape Preston Iron Ore Project, Cape Preston, WA	2009/5010	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Exploration drilling well WA-155-P(1)	2003/971	Not Controlled Action	Completed
Exploration of appraisal wells	2006/3065	Not Controlled Action	Completed
Exploration Well (Taunton-2)	2002/731	Not Controlled Action	Completed
Exploration Well in Permit Area WA-155-P(1)	2002/759	Not Controlled Action	Completed
Exploratory drilling in permit area WA-225-P	2001/490	Not Controlled Action	Completed
Extension of Simpson Oil Platforms & Wells	2002/685	Not Controlled Action	Completed
HCA05X Macedon Experimental Survey	2004/1926	Not Controlled Action	Completed
Hess Exploration Drilling Programme	2007/3566	Not Controlled Action	Completed
Huascaran-1 exploration well (WA-292-P)	2001/539	Not Controlled Action	Completed
Improving rabbit biocontrol: releasing another strain of RHDV, sthrn two thirds of Australia	2015/7522	Not Controlled Action	Completed
INDIGO Central Submarine Telecommunications Cable	2017/8127	Not Controlled Action	Completed
INDIGO West Submarine Telecommunications Cable, WA	2017/8126	Not Controlled Action	Completed
Infill Production Well (Griffin-9)	2001/417	Not Controlled Action	Completed
Jansz-2 and 3 Appraisal Wells	2002/754	Not Controlled Action	Completed
Klammer 2D Seismic Survey	2002/868	Not Controlled Action	Completed
Mahimahi Aquaculture Facility	2002/891	Not Controlled Action	Completed
Maia-Gaea Exploration wells	2000/17	Not Controlled Action	Completed
Manaslu - 1 and Huascaran - 1 Offshore Exploration Wells	2001/235	Not Controlled Action	Completed
Mermaid Marine Australia Desalination Project	2011/5916	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Montesa-1 and Bultaco-1 Exploration Wells	2000/102	Not Controlled Action	Completed
Murujuga archaeological excavation, collection and sampling, Dampier Archipelago, WA	2014/7160	Not Controlled Action	Completed
North Rankin B gas compression facility	2005/2500	Not Controlled Action	Completed
Pipeline System Modifications Project	2000/3	Not Controlled Action	Completed
Project Highclere Geophysical Survey	2021/9023	Not Controlled Action	Completed
Searipple gas and condensate field development	2000/89	Not Controlled Action	Completed
Seismic Survey, Bremer Basin, Mentelle Basin and Zeewyck Sub-basin	2004/1700	Not Controlled Action	Completed
Spool Base Facility	2001/263	Not Controlled Action	Completed
Subsea Gas Pipeline From Stybarrow Field to Griffin Venture Gas Export Pipeline	2005/2033	Not Controlled Action	Completed
sub-sea tieback of Perseus field wells	2004/1326	Not Controlled Action	Completed
Telstra North Rankin Spur Fibre Optic Cable	2016/7836	Not Controlled Action	Completed
Thevenard Island Retirement Project	2015/7423	Not Controlled Action	Completed
To construct and operate an offshore submarine fibre optic cable, WA	2014/7373	Not Controlled Action	Completed
WA-295-P Kerr-McGee Exploration Wells	2001/152	Not Controlled Action	Completed
Wanda Offshore Research Project, 80 km north-east of Exmouth, WA	2018/8293	Not Controlled Action	Completed
Western Flank Gas Development	2005/2464	Not Controlled Action	Completed
Wheatstone 3D seismic survey, 70km north of Barrow Island	2004/1761	Not Controlled Action	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action			
Yellowfin Tuna Aquaculture Trial	2003/1115	Not Controlled Action	Completed
Not controlled action (particular manner)			
'Kate' 3D marine seismic survey, exploration permits WA-320-P and WA-345-P, 60km	2005/2037	Not Controlled Action (Particular Manner)	Post-Approval
'Tourmaline' 2D marine seismic survey, permit areas WA-323-P, WA-330-P and WA-32	2005/2282	Not Controlled Action (Particular Manner)	Post-Approval
"Leanne" offshore 3D seismic exploration, WA-356-P	2005/1938	Not Controlled Action (Particular Manner)	Post-Approval
2D and 3D seismic surveys	2005/2151	Not Controlled Action (Particular Manner)	Post-Approval
2D marine seismic survey	2012/6296	Not Controlled Action (Particular Manner)	Post-Approval
2D Marine Seismic Survey in Permit Area WA-337-P	2003/1158	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey	2008/4493	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey	2005/2146	Not Controlled Action (Particular Manner)	Post-Approval
2D Seismic Survey Permit Area WA-352-P	2008/4628	Not Controlled Action (Particular Manner)	Post-Approval
2D seismic survey within permit WA-291	2007/3265	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey	2008/4281	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
3D Marine Seismic Survey (WA-482-P, WA-363-P), WA	2013/6761	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in Permit Areas WA-15-R, WA-18-R, WA-205-P, WA-253-P, WA-267-P and WA-268-P	2003/1271	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Survey in WA 457-P & WA 458-P, North West Shelf, offshore WA	2013/6862	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic Survey - Maxima 3D MSS	2006/2945	Not Controlled Action (Particular Manner)	Post-Approval
3D marine seismic survey over petroleum title WA-268-P	2007/3458	Not Controlled Action (Particular Manner)	Post-Approval
3D Marine Seismic Surveys - Contos CT-13 & Supertubes CT-13, offshore WA	2013/6901	Not Controlled Action (Particular Manner)	Post-Approval
3D seismic survey	2006/2715	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, Browse Basin, WA	2009/5048	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, near Scott Reef, Browse Basin	2005/2126	Not Controlled Action (Particular Manner)	Post-Approval
3D Seismic Survey, WA	2008/4428	Not Controlled Action (Particular Manner)	Post-Approval
3D sesmic survey	2006/2781	Not Controlled Action (Particular Manner)	Post-Approval
Acheron Non-Exclusive 2D Seismic Survey	2009/4968	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Acheron Non-Exclusive 2D Seismic Survey	2008/4565	Not Controlled Action (Particular Manner)	Post-Approval
Agrippina 3D Seismic Marine Survey	2009/5212	Not Controlled Action (Particular Manner)	Post-Approval
Apache Northwest Shelf Van Gogh Field Appraisal Drilling Program	2007/3495	Not Controlled Action (Particular Manner)	Post-Approval
Aperio 3D Marine Seismic Survey, WA	2012/6648	Not Controlled Action (Particular Manner)	Post-Approval
Artemis-1 Drilling Program (WA-360-P)	2010/5432	Not Controlled Action (Particular Manner)	Post-Approval
Australia to Singapore Fibre Optic Submarine Cable System	2011/6127	Not Controlled Action (Particular Manner)	Post-Approval
Balnaves Condensate Field Development	2011/6188	Not Controlled Action (Particular Manner)	Post-Approval
Bonaventure 3D seismic survey	2006/2514	Not Controlled Action (Particular Manner)	Post-Approval
Cable Seismic Exploration Permit areas WA-323-P and WA-330-P	2008/4227	Not Controlled Action (Particular Manner)	Post-Approval
Cape Preston East - Iron Ore Export Facilities, Pilbara, WA	2013/6844	Not Controlled Action (Particular Manner)	Post-Approval
Cerberus exploration drilling campaign, Carnarvon Basin, WA	2016/7645	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
CGGVERITAS 2010 2D Seismic Survey	2010/5714	Not Controlled Action (Particular Manner)	Post-Approval
Charon 3D Marine Seismic Survey	2007/3477	Not Controlled Action (Particular Manner)	Post-Approval
Consturction & operation of the Varanus Island kitchen & mess cyclone refuge building, compression p	2013/6952	Not Controlled Action (Particular Manner)	Post-Approval
Coverack Marine Seismic Survey	2001/399	Not Controlled Action (Particular Manner)	Post-Approval
Cue Seismic Survey within WA-359-P, WA-361-P and WA-360-P	2007/3647	Not Controlled Action (Particular Manner)	Post-Approval
CVG 3D Marine Seismic Survey	2012/6654	Not Controlled Action (Particular Manner)	Post-Approval
Decommissioning of the Legendre facilities	2010/5681	Not Controlled Action (Particular Manner)	Post-Approval
Deep Water Drilling Program	2010/5532	Not Controlled Action (Particular Manner)	Post-Approval
Demeter 3D Seismic Survey, off Dampier, WA	2002/900	Not Controlled Action (Particular Manner)	Post-Approval
Diesel Fuel Bunker Operation	2012/6289	Not Controlled Action (Particular Manner)	Post-Approval
Draeck 3D Marine Seismic Survey, WA-205-P	2006/3067	Not Controlled Action (Particular Manner)	Post-Approval
Drilling 35-40 offshore exploration wells in deep water	2008/4461	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Earthworks for kitchen/mess, cyclone refuge building & Compression Plant, Varanus Island	2013/6900	Not Controlled Action (Particular Manner)	Post-Approval
Eendracht Multi-Client 3D Marine Seismic Survey	2009/4749	Not Controlled Action (Particular Manner)	Post-Approval
Effect of marine seismic sounds to demersal fish and pearl oysters, north-west WA	2018/8169	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M3 & Vincent 4D Marine Seismic Surveys	2008/3981	Not Controlled Action (Particular Manner)	Completed
Enfield M3 4D, Vincent 4D & 4D Line Test Marine Seismic Surveys	2008/4122	Not Controlled Action (Particular Manner)	Post-Approval
Enfield M4 4D Marine Seismic Survey	2008/4558	Not Controlled Action (Particular Manner)	Post-Approval
Enfield oilfield 3D Seismic Survey	2006/3132	Not Controlled Action (Particular Manner)	Post-Approval
Exmouth West 2D Marine Seismic Survey	2008/4132	Not Controlled Action (Particular Manner)	Post-Approval
Exploration drilling of Zeus-1 well	2008/4351	Not Controlled Action (Particular Manner)	Post-Approval
Fletcher-Finucane Development, WA26-L and WA191-P	2011/6123	Not Controlled Action (Particular Manner)	Post-Approval
Foxhound 3D Non-Exclusive Marine Seismic Survey	2009/4703	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Gazelle 3D Marine Seismic Survey in WA-399-P and WA-42-L	2010/5570	Not Controlled Action (Particular Manner)	Post-Approval
Geco Eagle 3D Marine Seismic Survey	2008/3958	Not Controlled Action (Particular Manner)	Post-Approval
Gigas 2D Pilot Ocean Bottom Cable Marine Seismic Survey	2007/3839	Not Controlled Action (Particular Manner)	Post-Approval
Glencoe 3D Marine Seismic Survey WA-390-P	2007/3684	Not Controlled Action (Particular Manner)	Post-Approval
Greater Western Flank Phase 1 gas Development	2011/5980	Not Controlled Action (Particular Manner)	Post-Approval
Grimalkin 3D Seismic Survey	2008/4523	Not Controlled Action (Particular Manner)	Post-Approval
Guacamole 2D Marine Seismic Survey	2008/4381	Not Controlled Action (Particular Manner)	Post-Approval
Harmony 3D Marine Seismic Survey	2012/6699	Not Controlled Action (Particular Manner)	Post-Approval
Harpy 1 exploration well	2001/183	Not Controlled Action (Particular Manner)	Post-Approval
Honeycombs MC3D Marine Seismic Survey	2012/6368	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas MC3D Marine Seismic Survey (HZ-13) Carnarvon Basin, offshore WA	2013/7003	Not Controlled Action (Particular Manner)	Post-Approval
Huzzas phase 2 marine seismic survey, Exmouth Plateau, Northern Carnarvon Basin, WA	2013/7093	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
INDIGO Marine Cable Route Survey (INDIGO)	2017/7996	Not Controlled Action (Particular Manner)	Post-Approval
John Ross & Rosella Off Bottom Cable Seismic Exploration Program	2008/3966	Not Controlled Action (Particular Manner)	Post-Approval
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2009/4801	Not Controlled Action (Particular Manner)	Post-Approval
Judo Marine 3D Seismic Survey within and adjacent to WA-412-P	2008/4630	Not Controlled Action (Particular Manner)	Post-Approval
Julimar Brunello Gas Development Project	2011/5936	Not Controlled Action (Particular Manner)	Post-Approval
Kingtree & Ironstone-1 Exploration Wells	2011/5935	Not Controlled Action (Particular Manner)	Post-Approval
Klimt 2D Marine Seismic Survey	2007/3856	Not Controlled Action (Particular Manner)	Post-Approval
Kraken, Lusca & Asperus 3D Marine Seismic Survey	2013/6730	Not Controlled Action (Particular Manner)	Post-Approval
Laverda 3D Marine Seismic Survey and Vincent M1 4D Marine Seismic Survey	2010/5415	Not Controlled Action (Particular Manner)	Post-Approval
Laying a submarine optical fibre telecommunications cable, Perth to Singapore and Jakarta	2014/7332	Not Controlled Action (Particular Manner)	Post-Approval
Leopard 2D marine seismic survey	2005/2290	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Lion 2D Marine Seismic Survey	2007/3777	Not Controlled Action (Particular Manner)	Post-Approval
Macedon Gas Field Development	2008/4605	Not Controlled Action (Particular Manner)	Post-Approval
Marine reconnaissance survey	2008/4466	Not Controlled Action (Particular Manner)	Post-Approval
Mariner Non-Exclusive 2D Seismic Survey	2011/6172	Not Controlled Action (Particular Manner)	Post-Approval
Moosehead 2D seismic survey within permit WA-192-P	2005/2167	Not Controlled Action (Particular Manner)	Post-Approval
Munmorah 2D seismic survey within permits WA-308/9-P	2003/970	Not Controlled Action (Particular Manner)	Post-Approval
North Perth Marine Survey	2011/6067	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Program, WA-264-P	2007/3844	Not Controlled Action (Particular Manner)	Post-Approval
Ocean Bottom Cable Seismic Survey	2005/2017	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Canning Multi Client 2D Marine Seismic Survey	2010/5393	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Drilling Campaign	2011/5830	Not Controlled Action (Particular Manner)	Post-Approval
Offshore Fibre Optic Cable Network Construction & Operation, Port Hedland WA to	2014/7223	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Darwin NT		Manner)	
Orcus 3D Marine Seismic Survey in WA-450-P	2010/5723	Not Controlled Action (Particular Manner)	Post-Approval
Osprey and Dionysus Marine Seismic Survey	2011/6215	Not Controlled Action (Particular Manner)	Post-Approval
Outer Canning exploration drilling program off NW coast of WA	2012/6618	Not Controlled Action (Particular Manner)	Post-Approval
Palta-1 exploration well in Petroleum Permit Area WA-384-P	2011/5871	Not Controlled Action (Particular Manner)	Post-Approval
Phoenix 3D Seismic Survey, Bedout Sub-Basin	2010/5360	Not Controlled Action (Particular Manner)	Post-Approval
Pilot Appraisal Well - Torosa South 1	2008/3991	Not Controlled Action (Particular Manner)	Post-Approval
Pomodoro 3D Marine Seismic Survey in WA-426-P and WA-427-P	2010/5472	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees 4D Marine Seismic Monitor Survey, HCA12A	2012/6579	Not Controlled Action (Particular Manner)	Post-Approval
Pyrenees-Macedon 3D marine seismic survey	2005/2325	Not Controlled Action (Particular Manner)	Post-Approval
Quiberon 2D Seismic Survey, permit area WA-385P, offshore of Carnarvon	2009/5077	Not Controlled Action (Particular Manner)	Post-Approval
Reindeer gas reservior development, Devil Creek, Carnarvon Basin - WA	2007/3917	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Repsol 3d & 2D Marine Seismic Survey	2012/6658	Not Controlled Action (Particular Manner)	Post-Approval
Rose 3D Seismic Program	2008/4239	Not Controlled Action (Particular Manner)	Post-Approval
Rosebud 3D Marine Seismic Survey in WA-30-R and TR/5	2012/6493	Not Controlled Action (Particular Manner)	Post-Approval
Rydal-1 Petroleum Exploration Well, WA	2012/6522	Not Controlled Action (Particular Manner)	Post-Approval
Salsa 3D Marine Seismic Survey	2010/5629	Not Controlled Action (Particular Manner)	Post-Approval
Santos Winchester three dimensional seismic survey - WA-323-P & WA-330-P	2011/6107	Not Controlled Action (Particular Manner)	Post-Approval
Scott Reef Seismic Research	2006/2647	Not Controlled Action (Particular Manner)	Post-Approval
Skorpion Marine Seismic Survey WA	2001/416	Not Controlled Action (Particular Manner)	Post-Approval
Sovereign 3D Marine Seismic Survey	2011/5861	Not Controlled Action (Particular Manner)	Post-Approval
Stag 4D & Reindeer MAZ Marine Seismic Surveys, WA	2013/7080	Not Controlled Action (Particular Manner)	Post-Approval
Stag Off-bottom Cable Seismic Survey	2007/3696	Not Controlled Action (Particular Manner)	Post-Approval
Stybarrow 4D Marine Seismic Survey	2011/5810	Not Controlled Action (Particular	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
		Manner)	
Stybarrow Baseline 4D marine seismic survey	2008/4530	Not Controlled Action (Particular Manner)	Post-Approval
Tantabiddi Boat Ramp Sand Bypassing	2015/7411	Not Controlled Action (Particular Manner)	Post-Approval
Tidepole Maz 3D Seismic Survey Campaign	2007/3706	Not Controlled Action (Particular Manner)	Post-Approval
Tortilla 2D Seismic Survey, WA	2011/6110	Not Controlled Action (Particular Manner)	Post-Approval
Tridacna 3D Ocean Bottom Cable Marine Seismic Survey	2011/5959	Not Controlled Action (Particular Manner)	Post-Approval
Triton 3D Marine Seismic Survey, WA-2-R and WA-3-R	2006/2609	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a 3D marine seismic survey	2010/5695	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5679	Not Controlled Action (Particular Manner)	Post-Approval
Undertake a three dimensional marine seismic survey	2010/5715	Not Controlled Action (Particular Manner)	Post-Approval
Vampire 2D Non Exclusive Seismic Survey, WA	2010/5543	Not Controlled Action (Particular Manner)	Post-Approval
Vincent M1 and Enfield M5 4D Marine Seismic Survey	2010/5720	Not Controlled Action (Particular Manner)	Post-Approval

Title of referral	Reference	Referral Outcome	Assessment Status
Not controlled action (particular manner)			
Warramunga Non-Inclusive 3D Seismic Survey	2008/4553	Not Controlled Action (Particular Manner)	Post-Approval
West Anchor 3D Marine Seismic Survey	2008/4507	Not Controlled Action (Particular Manner)	Post-Approval
West Panaeus 3D seismic survey	2006/3141	Not Controlled Action (Particular Manner)	Post-Approval
Westralia SPAN Marine Seismic Survey, WA & NT	2012/6463	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone 3D MAZ Marine Seismic Survey	2011/6058	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2007/3941	Not Controlled Action (Particular Manner)	Post-Approval
Wheatstone Iago Appraisal Well Drilling	2008/4134	Not Controlled Action (Particular Manner)	Post-Approval
Referral decision			
3D Marine Seismic Survey in the offshore northwest Carnarvon Basin	2011/6175	Referral Decision	Completed
3D Seismic Survey	2008/4219	Referral Decision	Completed
Bianchi 3D Marine Seismic Survey, Carnavon Basin, WA	2013/7078	Referral Decision	Completed
CVG 3D Marine Seismic Survey	2012/6270	Referral Decision	Completed
Enfield 4D Marine Seismic Surveys, Production Permit WA-28-L	2005/2370	Referral Decision	Completed
Experimental Study of Behavioural and Physiological Impact on Fish of Seismic Ex	2006/2625	Referral Decision	Completed
Pilot Appraisal Well - Torosa South-1	2008/3985	Referral Decision	Completed

Title of referral	Reference	Referral Outcome	Assessment Status
Referral decision			
Rose 3D Seismic acquisition survey	2008/4220	Referral Decision	Completed
Stybarrow Baseline 4D Marine Seismic Survey (Permit Areas WA-255-P, WA-32-L, WA-	2008/4165	Referral Decision	Completed
Two Dimensional Transition Zone Seismic Survey - TP/7 (R1)	2010/5507	Referral Decision	Completed
Varanus Island Compression Project	2012/6698	Referral Decision	Completed

Key Ecological Features [Resource Information]

Key Ecological Features are the parts of the marine ecosystem that are considered to be important for the biodiversity or ecosystem functioning and integrity of the Commonwealth Marine Area.

Name	Region
Ancient coastline at 125 m depth contour	North-west
Ancient coastline at 90-120m depth	South-west
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	North-west
Commonwealth marine environment surrounding the Houtman Abrolhos Islands	South-west
Commonwealth marine environment within and adjacent to the west coast inshore lagoons	South-west
Commonwealth waters adjacent to Ningaloo Reef	North-west
Continental Slope Demersal Fish Communities	North-west
Exmouth Plateau	North-west
Glomar Shoals	North-west
Mermaid Reef and Commonwealth waters surrounding Rowley Shoals	North-west
Seringapatam Reef and Commonwealth waters in the Scott Reef Complex	North-west
Western demersal slope and associated fish communities	South-west
Western rock lobster	South-west

Biologically Important Areas [Resource Information]

Scientific Name	Behaviour	Presence

Scientific Name	Behaviour	Presence
Dugong		
Dugong dugon Dugong [28]	Breeding	Known to occur
Dugong dugon Dugong [28]	Calving	Known to occur
Dugong dugon Dugong [28]	Foraging (high density seagrass beds)	Known to occur
Dugong dugon Dugong [28]	Nursing	Known to occur
Marine Turtles		
Caretta caretta Loggerhead Turtle [1763]	Internesting	Known to occur
Caretta caretta Loggerhead Turtle [1763]	Internesting buffer	Known to occur
Caretta caretta Loggerhead Turtle [1763]	Nesting	Known to occur
Chelonia mydas Green Turtle [1765]	Aggregation	Known to occur
Chelonia mydas Green Turtle [1765]	Basking	Known to occur
Chelonia mydas Green Turtle [1765]	Foraging	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting	Known to occur
Chelonia mydas Green Turtle [1765]	Internesting buffer	Known to occur
Chelonia mydas Green Turtle [1765]	Mating	Known to occur

Scientific Name	Behaviour	Presence
Chelonia mydas Green Turtle [1765]	Migration corridor	Known to occur
Chelonia mydas Green Turtle [1765]	Nesting	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Foraging	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Internesting buffer	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Mating	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Migration corridor	Known to occur
Eretmochelys imbricata Hawksbill Turtle [1766]	Nesting	Known to occur
Natator depressus Flatback Turtle [59257]	Aggregation	Known to occur
Natator depressus Flatback Turtle [59257]	Foraging	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting	Known to occur
Natator depressus Flatback Turtle [59257]	Internesting buffer	Known to occur
Natator depressus Flatback Turtle [59257]	Mating	Known to occur
Natator depressus Flatback Turtle [59257]	Migration corridor	Known to occur

Scientific Name	Behaviour	Presence
Natator depressus Flatback Turtle [59257]	Nesting	Known to occur
Seabirds		
Anous stolidus Common Noddy [825]	Foraging (provisioning young)	Known to occur
Anous tenuirorstris melanops Australian Lesser Noddy [26000]	Foraging (provisioning young)	Known to occur
Ardenna carneipes Flesh-footed Shearwater [82404]	Aggregation	Known to occur
Ardenna pacifica Wedge-tailed Shearwater [84292]	Foraging (in high numbers)	Known to occur
Ardenna tenuirostris Short-tailed Shearwater [84292]	Breeding	Known to occur
Eudyptula minor Little Penguin [1085]	Foraging (provisioning young)	Known to occur
Fregata ariel Lesser Frigatebird [1012]	Breeding	Known to occur
Hydroprogne caspia Caspian Tern [808]	Foraging (provisioning young)	Known to occur
Larus pacificus Pacific Gull [811]	Foraging (in high numbers)	Known to occur
Larus pacificus Pacific Gull [811]	Foraging (in high numbers)	Former Range
Onychoprion anaethetus Bridled Tern [82845]	Foraging (in high numbers)	Known to occur

Scientific Name	Behaviour	Presence
Pelagodroma marina White-faced Storm-petrel [1016]	Foraging (in high numbers)	Known to occur
Phaethon lepturus White-tailed Tropicbird [1014]	Breeding	Known to occur
Pterodroma mollis Soft-plumaged Petrel [1036]	Foraging (in high numbers)	Known to occur
Puffinus assimilis tunneyi Little Shearwater [59363]	Foraging (in high numbers)	Known to occur
Sterna dougallii Roseate Tern [817]	Breeding	Known to occur
Sterna dougallii Roseate Tern [817]	Foraging	Known to occur
Sterna dougallii Roseate Tern [817]	Foraging (provisioning young)	Known to occur
Sternula albifrons sinensis Little Tern [82850]	Resting	Known to occur
Sternula nereis Fairy Tern [82949]	Breeding	Known to occur
Sternula nereis Fairy Tern [82949]	Foraging (in high numbers)	Known to occur
Sula leucogaster Brown Booby [1022]	Breeding	Known to occur
Thalasseus bengalensis Lesser Crested Tern [66546]	Breeding	Known to occur
Seals		
Neophoca cinerea Australian Sea Lion [22]	Foraging (male)	Likely to occur

Scientific Name	Behaviour	Presence
[Neophoca cinerea](#) Australian Sea Lion [22]	Foraging (male and female)	Known to occur
Sharks		
[Carcharodon carcharias](#) White Shark [64470]	Foraging	Known to occur
[Rhincodon typus](#) Whale Shark [66680]	Foraging	Known to occur
[Rhincodon typus](#) Whale Shark [66680]	Foraging (high density prey)	Known to occur
Whales		
[Balaenoptera musculus brevicauda](#) Pygmy Blue Whale [81317]	Foraging	Known to occur
[Balaenoptera musculus brevicauda](#) Pygmy Blue Whale [81317]	Known Foraging Area	Known to occur
[Balaenoptera musculus brevicauda](#) Pygmy Blue Whale [81317]	Migration	Known to occur
[Megaptera novaeangliae](#) Humpback Whale [38]	Migration (north and south)	Known to occur
[Megaptera novaeangliae](#) Humpback Whale [38]	Resting	Known to occur

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data is available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on the contents of this report.

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using point locations and environmental data layers.

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions when time permits.

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded breeding sites; and
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

-Office of Environment and Heritage, New South Wales
-Department of Environment and Primary Industries, Victoria
-Department of Primary Industries, Parks, Water and Environment, Tasmania
-Department of Environment, Water and Natural Resources, South Australia
-Department of Land and Resource Management, Northern Territory
-Department of Environmental and Heritage Protection, Queensland
-Department of Parks and Wildlife, Western Australia
-Environment and Planning Directorate, ACT
-Birdlife Australia
-Australian Bird and Bat Banding Scheme
-Australian National Wildlife Collection
-Natural history museums of Australia
-Museum Victoria
-Australian Museum
-South Australian Museum
-Queensland Museum
-Online Zoological Collections of Australian Museums
-Queensland Herbarium
-National Herbarium of NSW
-Royal Botanic Gardens and National Herbarium of Victoria
-Tasmanian Herbarium
-State Herbarium of South Australia
-Northern Territory Herbarium
-Western Australian Herbarium
-Australian National Herbarium, Canberra
-University of New England
-Ocean Biogeographic Information System
-Australian Government, Department of Defence
Forestry Corporation, NSW
-Geoscience Australia
-CSIRO
-Australian Tropical Herbarium, Cairns
-eBird Australia
-Australian Government – Australian Antarctic Data Centre
-Museum and Art Gallery of the Northern Territory
-Australian Government National Environmental Science Program
-Australian Institute of Marine Science
-Reef Life Survey Australia
-American Museum of Natural History
-Queen Victoria Museum and Art Gallery, Inveresk, Tasmania
-Tasmanian Museum and Art Gallery, Hobart, Tasmania
-Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the Contact us page.

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APPENDIX D DEPARTMENT OF PLANNING, LANDS AND HERITAGE ABORIGINAL CULTURAL HERITAGE INQUIRY SYSTEM

Aboriginal Cultural Heritage Inquiry System

List of Aboriginal Cultural Heritage (ACH) Register

Search Criteria

102 Aboriginal Cultural Heritage (ACH) Register in Shapefile - Okha_Ops_AdvertisingEMBA_1_1, Okha_Ops_AdvertisingEMBA_8, Okha_Ops_AdvertisingEMBA_7, Okha_Ops_AdvertisingEMBA_6, Okha_Ops_AdvertisingEMBA_5, Okha_Ops_AdvertisingEMBA_4, Okha_Ops_AdvertisingEMBA_2, Okha_Ops_AdvertisingEMBA_3

Disclaimer

Aboriginal heritage holds significant value to Aboriginal people for their social, spiritual, historical, scientific, or aesthetic importance within Aboriginal traditions, and provides an essential link for Aboriginal people to their past, present and future. In Western Australia Aboriginal heritage is protected under the *Aboriginal Heritage Act 1972*.

All Aboriginal cultural heritage in Western Australia is protected, whether or not the ACH has been reported or exists on the Register.

The information provided is made available in good faith and is predominately based on the information provided to the Department of Planning, Lands and Heritage by third parties. The information is provided solely on the basis that readers will be responsible for making their own assessment as to the accuracy of the information. If you find any errors or omissions in our records, including our maps, it would be appreciated if you provide the details to the Department via https://achknowledge.dplh.wa.gov.au/ach-enquiry-form and we will make every effort to rectify it as soon as possible.

South West Settlement ILUA Disclaimer

Your heritage enquiry is on land **within or adjacent to** the following Indigenous Land Use Agreement(s): Whadjuk People Indigenous Land Use Agreement.

On 8 June 2015, six identical Indigenous Land Use Agreements (ILUAs) were executed across the South West by the Western Australian Government and, respectively, the Yued, Whadjuk People, Gnaala Karla Booja, Ballardong People, South West Boojarah #2 and Wagyl Kaip & Southern Noongar groups, and the South West Aboriginal Land and Sea Council (SWALSC).

The ILUAs bind the parties (including 'the State', which encompasses all State Government Departments and certain State Government agencies) to enter into a Noongar Standard Heritage Agreement (NSHA) when conducting Aboriginal Heritage Surveys in the ILUA areas, unless they have an existing heritage agreement. It is also intended that other State agencies and instrumentalities enter into the NSHA when conducting Aboriginal Heritage Surveys in the ILUA areas. It is recommended a NSHA is entered into, and an 'Activity Notice' issued under the NSHA, if there is a risk that an activity will ‘impact’ (i.e. by excavating, damaging, destroying or altering in any way) an Aboriginal heritage site. The Aboriginal Heritage Due Diligence Guidelines, which are referenced by the NSHA, provide guidance on how to assess the potential risk to Aboriginal heritage.

Likewise, from 8 June 2015 the Department of Energy, Mines, Industry Regulation and Safety (DEMIRS) in granting Mineral, Petroleum and related Access Authority tenures within the South West Settlement ILUA areas, will place a condition on these tenures requiring a heritage agreement or a NSHA before any rights can be exercised.

If you are a State Government Department, Agency or Instrumentality, or have a heritage condition placed on your mineral or petroleum title by DEMIRS, you should seek advice as to the requirement to use the NSHA for your proposed activity. The full ILUA documents, maps of the ILUA areas and the NSHA template can be found at https://www.wa.gov.au/organisation/department-of-the-premier-and-cabinet/south-west-native-title-settlement.

Further advice can also be sought from the Department of Planning, Lands and Heritage via https://achknowledge.dplh.wa.gov.au/ach-enquiry-form.

Copyright

Terminology

ID: ACH on the Register is assigned a unique ID by the Department of Planning, Lands and Heritage using the format: ACH-00000001. For ACH on the former Register the ID numbers remain unchanged and use the new format. For example the ACH ID of the place Swan River was previously '3536' and is now 'ACH-00003536'.

Access and Restrictions:

- **Boundary Reliable (Yes/No):** Indicates whether to the best knowledge of the Department, the location and extent of the ACH boundary is considered reliable.
- **Boundary Restricted = No:** Represents the actual location of the ACH as understood by the Department..
- **Boundary Restricted = Yes:** To preserve confidentiality the exact location and extent of the place is not displayed on the map. However, the shaded region (generally with an area of at least 4km²) provides a general indication of where the ACH is located. If you are a landowner and wish to find out more about the exact location of the place, please contact the Department of Planning, Lands and Heritage.
- **Culturally Sensitive = No:** Availability of information that the Department of Planning, Lands and Heritage holds in relation to the ACH is not restricted in any way.
- **Culturally Sensitive = Yes:** Some of the information that the Department of Planning, Lands and Heritage holds in relation to the ACH is restricted if it is considered culturally sensitive information. This information will only be made available if the Department of Planning, Lands and Heritage receives written approval from the people who provided the information. To request access please contact via https://achknowledge.dplh.wa.gov.au/ach-enquiry-form.
- **Culturally Sensitive Nature:**
  - **No Gender / Initiation Restrictions:** *Anyone* can view the information.
  - **Men only:** Only *males* can view restricted information.
  - **Women only:** Only *females* can view restricted information.

Status:

- **Register:** Aboriginal cultural heritage places that are assessed as meeting Section 5 of the *Aboriginal Heritage Act 1972*.
- **Lodged:** Information which has been received in relation to an Aboriginal cultural heritage place, but is yet to be assessed under Section 5 of the *Aboriginal Heritage Act 1972.*
- **Historic:** Aboriginal heritage places assessed as not meeting the criteria of Section 5 of the *Aboriginal Heritage Act 1972*. Includes places that no longer exist as a result of land use activities with existing approvals.

Place Type: The type of Aboriginal cultural heritage place. For example an artefact scatter place or engravings place.

Legacy ID: This is the former unique number that the former Department of Aboriginal Sites assigned to the place.

Coordinates

Map coordinates are based on the GDA 2020 Datum.

Basemap Copyright

Aboriginal Cultural Heritage Inquiry System

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
159	CORAL BAY 02	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07594
508	POINT MURAT 03	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07503
509	POINT MURAT 04	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P07504
563	POINT MURAT 01	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07501
564	POINT MURAT 02	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07502
628	CAMP THIRTEEN BURIAL	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P07434
873	MONTEBELLO IS: NOALA CAVE.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Rock Shelter	*Registered Knowledge Holder names available from DPLH	P07287
926	MONTEBELLO IS: HAYNES CAVE.	No	Yes	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Midden; Rock Shelter	*Registered Knowledge Holder names available from DPLH	P07286
966	ROSEMARY IS.11: CHOOKIE BAY	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07219
967	ROSEMARY IS.12: CHOOKIE BAY	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	P07220
968	ROSEMARY IS.13	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves; Midden	*Registered Knowledge Holder names available from DPLH	P07221
969	ROSEMARY IS.14	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves; Midden	*Registered Knowledge Holder names available from DPLH	P07222
970	ROSEMARY IS.15: AIRSTRIP	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Grinding areas / Grooves; Midden	*Registered Knowledge Holder names available from DPLH	P07223
971	ROSEMARY IS.16: AIRSTRIP	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden; Quarry	*Registered Knowledge Holder names available from DPLH	P07224
972	ROSEMARY IS.17: AIRSTRIP	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Quarry	*Registered Knowledge Holder names available from DPLH	P07225
973	ROSEMARY IS.18: DEEP WATER	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07226
974	ROSEMARY IS.19: CHITON	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07227

Aboriginal Cultural Heritage Inquiry System

List of Aboriginal Cultural Heritage (ACH) Register

ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
975	ROSEMARY IS.20: HALFWAY CK	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07228
977	ROSEMARY IS.22	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P07230
978	ROSEMARY IS.23: WADJURU R/H	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Grinding areas / Grooves; Traditional Structure; Midden; Water Source	*Registered Knowledge Holder names available from DPLH	P07231
979	ROSEMARY IS.24: HUNGERFORD	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07232
6017	YARDIE CREEK CARAVAN BURIAL	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P07115
6060	CAPE CUVIER	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07053
6078	ROSEMARY ISLAND 10	No	Yes	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P07019
6227	MALUS ISLAND.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Engraving; Grinding areas / Grooves; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P06908
6311	POINT MURAT.	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Camp; Midden; Other	*Registered Knowledge Holder names available from DPLH	P06628
6498	DIRK HARTOG ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Traditional Structure	*Registered Knowledge Holder names available from DPLH	P06448
6596	POINT ANDERSON.	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Hunting Place; Midden; Shell; Water Source	*Registered Knowledge Holder names available from DPLH	P06341
6616	CORAL BAY ACCESS 2	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06361
6723	MULANDA 2	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06257
6724	MULANDA 3	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06258
6725	MULANDA 4	No	No	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P06259
6754	OSPREY BAY 6	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06165
6755	OSPREY BAY INTERDUNAL 1	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06166

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6756	OSPREY BAY INTERDUNAL 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P06167
6757	BLOODWOOD CREEK MIDDEN 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06168
6758	BLOODWOOD CREEK MIDDEN 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06169
6759	BLOODWOOD CREEK MIDDEN 3	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06170
6760	BLOODWOOD CREEK SHORELINE	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06171
6761	LOW POINT MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06172
6762	MILYERING MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06173
6764	CAMP 17 SOUTH MIDDENS	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06175
6765	CAMP 17 NORTH MIDDENS	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06176
6769	MULANDA 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06180
6782	28 MILE CREEK NORTH 1	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06140
6784	MANDU MANDU CREEK SOUTH	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06142
6785	MANDU MANDU CREEK NORTH	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06143
6787	MANDU MANDU ROCKSHELTERS.	No	Yes	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Midden; Other; Rock Shelter	*Registered Knowledge Holder names available from DPLH	P06145
6790	YARDIE CREEK SOUTH 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06148
6792	MULANDA BLUFF MIDDEN.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06150
6793	ROAD ALIGNMENT 1	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06151

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6794	ROAD ALIGNMENT 2	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06152
6795	ROAD ALIGNMENT 3	No	Yes	No	No Gender / Initiation Restrictions	Register	Midden	*Registered Knowledge Holder names available from DPLH	P06153
6798	YARDIE INTERDUNAL SWALE	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06156
6799	YARDIE BEACH MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06157
6800	OYSTER STACKS MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06158
6801	NORTH T-BONE BAY	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06159
6802	OSPREY BAY 1	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06160
6803	OSPREY BAY 2	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06161
6804	OSPREY BAY 3	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06162
6805	OSPREY BAY 4	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06163
6806	OSPREY BAY 5	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P06164
6827	CORAL BAY SKELETON	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P06132
7123	BERNIER ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P05789
7124	DORRE ISLAND	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P05790
7126	MESA CAMP	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05792
7138	QUOBBA DUNES.	Yes	No	Yes	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Camp; Midden	*Registered Knowledge Holder names available from DPLH	P05804
7206	WEALJUGOO MIDDEN.	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Camp; Hunting Place; Midden	*Registered Knowledge Holder names available from DPLH	P05710

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7211	MAUD LANDING.	No	No	No	No Gender / Initiation Restrictions	Register	Burial; Camp; Meeting Place; Water Source	*Registered Knowledge Holder names available from DPLH	P05715
7254	SANDY BAY NORTH	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05652
7265	LAKE SIDE VIEW	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05664
7298	YARDIE CREEK ROCKSHELTERS	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P05644
7299	YARDIE CREEK	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05645
7300	MANDU MANDU CK ROCKSHELTERS	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P05646
7301	CAMP 17 CREEK EAST	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05647
7303	TULKI WELL MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05649
7304	PILGRAMUNNA BAY MIDDEN	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P05650
7305	MANGROVE BAY.	No	Yes	No	No Gender / Initiation Restrictions	Register	Burial; Artefacts / Scatter; Hunting Place; Midden	*Registered Knowledge Holder names available from DPLH	P05651
7899	MALUS ISLAND	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	P04947
8300	CORAL BAY	No	No	No	No Gender / Initiation Restrictions	Register	Burial	*Registered Knowledge Holder names available from DPLH	P04352
10381	VLAMING HEAD	Yes	No	Yes	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial; Creation / Dreaming Narrative	*Registered Knowledge Holder names available from DPLH	P01799
11328	GAP WELL	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00836
11400	YARDIE CREEK STATION	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00750
11401	5 Mile Well (Cape Range)	No	No	No	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Engraving; Painting; Quarry	*Registered Knowledge Holder names available from DPLH	P00751
11458	NINGALOO (near)	No	No	No	No Gender / Initiation Restrictions	Register	Painting	*Registered Knowledge Holder names available from DPLH	P00701

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ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
11772	ROSEMARY ISLAND 09	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P00369
11773	ROSEMARY ISLAND 08	No	No	No	No Gender / Initiation Restrictions	Register	Engraving; Grinding areas / Grooves; Traditional Structure	*Registered Knowledge Holder names available from DPLH	P00370
11774	ROSEMARY ISLAND 07	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00371
11775	ROSEMARY ISLAND 06	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00372
11776	ROSEMARY ISLAND 04.	No	No	No	No Gender / Initiation Restrictions	Register	Camp; Engraving	*Registered Knowledge Holder names available from DPLH	P00373
11777	ROSEMARY ISLAND 03	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00374
11789	ROSEMARY ISLAND 01	No	No	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Engraving; Midden; Quarry	*Registered Knowledge Holder names available from DPLH	P00386
11818	ROSEMARY ISLAND 02	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00362
11819	ROSEMARY ISLAND 05	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00363
11820	ENDERBY ISLAND 01	No	No	No	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	P00364
11885	PADJARI MANU CAVE (Formerly Bunbury Cave)	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Sub surface cultural material; Artefacts / Scatter; Ritual / Ceremonial; Engraving; Painting; Water Source	*Registered Knowledge Holder names available from DPLH	P00267
15322	POINT MURAT/WHITE OPAL	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter; Midden	*Registered Knowledge Holder names available from DPLH	P07916
17447	PAP HILL OCHRE	No	Yes	No	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial; Grinding areas / Grooves; Ochre; Rock Shelter	*Registered Knowledge Holder names available from DPLH	
17448	CHUGORI ROCKHOLE	No	Yes	No	No Gender / Initiation Restrictions	Register	Ritual / Ceremonial; Creation / Dreaming Narrative; Grinding areas / Grooves; Traditional Structure; Water Source	*Registered Knowledge Holder names available from DPLH	
26006	Site No. 25	Yes	Yes	Yes	No Gender / Initiation Restrictions	Register	Engraving	*Registered Knowledge Holder names available from DPLH	
26736	ACHM - 09-05	No	Yes	No	No Gender / Initiation Restrictions	Register	Artefacts / Scatter	*Registered Knowledge Holder names available from DPLH	

Aboriginal Cultural Heritage Inquiry System

List of Aboriginal Cultural Heritage (ACH) Register

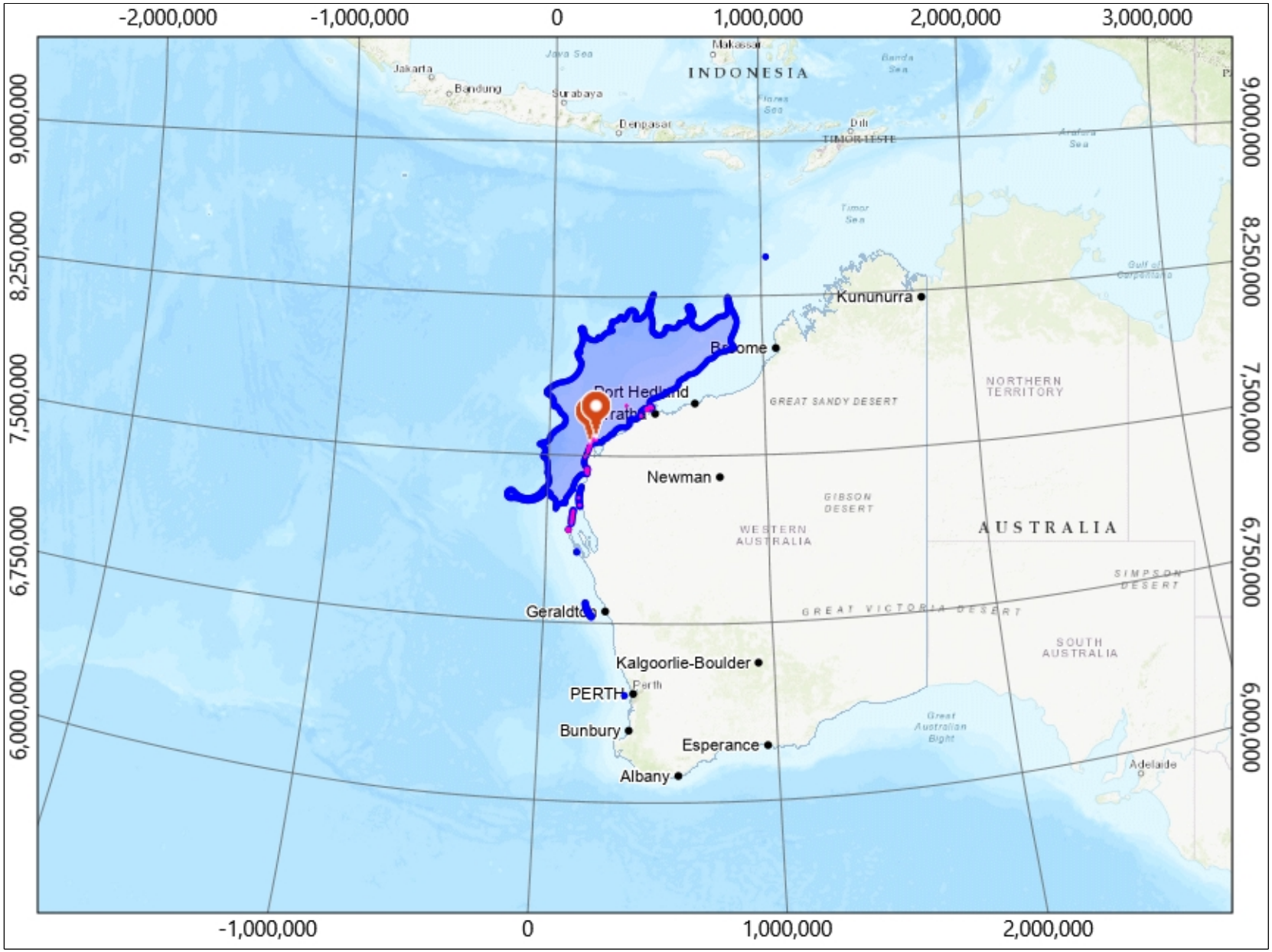
ID	Name	Boundary Restricted	Boundary Reliable	Culturally Sensitive	Culturally Sensitive Nature	Status	Place Type	Knowledge Holders	Legacy ID
38695	Mandu Mandu Creek South Rockshelter 8 (MMCSR8)	No	Yes	No		Register	Artefacts / Scatter; Rock Shelter	*Registered Knowledge Holder names available from DPLH	

Department of **Planning, Lands and Heritage**

GOVERNMENT OF WESTERN AUSTRALIA

Aboriginal Cultural Heritage Inquiry System

Map of Aboriginal Cultural Heritage (ACH) Register



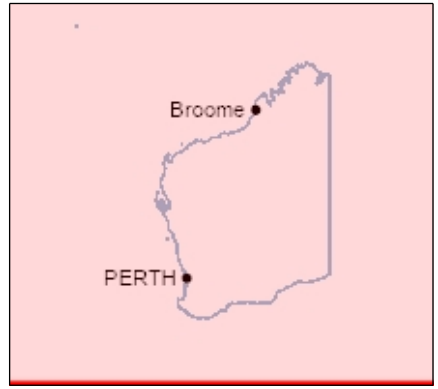
Legend

- Aboriginal Cultural Heritage (ACH) Register
- Search Area
- Aboriginal Community
  - *Permanent*
  - *Seasonal*
  - *Town Based*
- Town
- Road
- River
- Local Government Authority

952.59 kilometres

Map Scale 1 : 28,870,000

MGA Zone 50 (GDA2020)



APPENDIX E PROGRAM OF ONGOING ENGEMENT WITH TRADITIONAL CUSTODIANS

Proposed Program of Ongoing Engagement with Traditional Custodians

This Program of Ongoing Engagement with Traditional Custodians ("Program") has been developed to demonstrate Woodside's commitment to ongoing engagement and support of Traditional Custodians' capacity to care for and manage Country, including Sea Country, and has been directly informed by Traditional Custodians' feedback regarding their capacity to engage and consult on Environment Plans.

It is a living document designed to evolve with ongoing consultation and feedback from Traditional Custodians and, at a minimum, will be subject to annual review. In addition to this Program, Woodside will continue to participate in, and support collective industry engagement with Traditional Owners on the development of a future, sustainable, industry wide Program. Through the Program, Woodside actively supports Traditional Custodians' capacity for, and involvement in, ongoing engagement and feedback on environment plans.

The Program has been developed so that Traditional Custodians can, on an ongoing basis, provide Woodside with feedback relating to the possible consequences of an activity to be carried out under an environment plan on their functions, interests and activities as they relate to cultural values. This feedback will be evaluated in conjunction with Traditional Custodians and, where necessary, avoidance or mitigation strategies in will be developed in collaboration with Traditional Custodians. How the Program is implemented with specific Traditional Custodians will depend on their stated needs and priorities

The Program is underpinned by Woodside's First Nations Communities Policy (woodside.com), the objective of which is to ensure Woodside partners and engages with First Nations communities to create positive economic, social and cultural outcomes that leave a lasting legacy. Woodside does this through building respectful relationships and partnerships with First Nations communities where we are active, in the areas where they are most interested in. We acknowledge the unique connection that First Nations communities have to land, waters and the environment.

The Program will include, as agreed with relevant communities, reasonable commitment to:

1. **Support for ongoing dialogue and engagement**

Woodside will support the capacity of Traditional Custodians to participate in ongoing dialogue and engagement about the environment plans and to enable the ongoing and future identification of cultural values potentially impacted by Woodside's activities. Woodside further commits to agreeing consultation protocols with individual Traditional Custodians to ensure the material provided is appropriate in level of detail such that the potential for cultural impact from Woodside activities can be determined and as required measures can be adopted to avoid or minimise impact.

In addition, Woodside will receive feedback on cultural values from an individual person or organisation that identifies as a Traditional Custodian, at any stage during the development and implementation of activities. This feedback will be evaluated, in conjunction with the Traditional Custodian individual or group and if required, control measures will put in place to avoid impacts to cultural values, or where avoidance is not possible, to minimise and mitigate the impacts to an acceptable level.

Where cultural values are identified post activity completion, any controls relevant to value management will be implemented during the next relevant activity.

2. Support for the identification and recording of cultural features

Woodside will support Traditional Custodians to record and articulate their Sea Country values and will invest in cultural assessments codesigned with Traditional Custodians, where required, to inform potential risks to cultural values from our petroleum activities.

This may include supporting cultural mapping by Traditional Custodians to identify and map significant cultural features including archaeological sites and other cultural values. The scoping of the mapping process will be codesigned with Traditional Custodians.

Woodside understands that cultural knowledge remains the intellectual property of Traditional Custodians and will agree with Traditional Custodians at the outset how that information from surveys will be used to feedback into and inform the environment plan's design and implementation.

In addition, Woodside applies the Cultural Heritage Management Procedure 2019, updated in 2023, to the Program which*:*

- provides a process for the identification, protection, and management of Cultural Heritage taking into account relevant standards, in particular, the United Nations Declaration on the Rights of Indigenous Peoples, the Charter for the Protection and Management of the Archaeological Heritage, the Convention for the Safeguarding of the Intangible Cultural Heritage, and the Convention on the Protection of the Underwater Cultural Heritage;
- applies to underwater cultural heritage and, consistent with current practice, provides for the commissioning of (where appropriate) both archaeological and ethnographic assessments of cultural values over the submerged landscape; and
- the process includes the following:
    - early engagement with relevant Traditional Custodians
    - identification of potential heritage, this could include desktop and field surveys undertaken with the Traditional Custodians.
- the development of cultural management strategies; and, where it is determined cultural heritage may be impacted, the development of Cultural Heritage Management Plans codesigned with Traditional Custodians and implemented by Woodside's First Nations team which:
    - focus on avoidance or minimisation of impacts; and
    - provide regular reviews and for inclusion of new information and further development of the Cultural Heritage Management Plan.

Woodside is committed to continue to receive feedback on cultural values for the life of an environment plan, the inclusion of new information and the development of avoidance or mitigation strategies in collaboration with Traditional Custodians. This information will be recorded via the Woodside Management of Knowledge Process and any potential impacts to the accepted Environment Plan evaluated via the Woodside Management of Change Process.

3. Building capacity for the ongoing protection of country

Woodside will support measures to increase the capability and capacity of the Traditional Custodian groups. This is guided by Woodside's Indigenous Affairs Strategy 2019 ("Strategy"), which is designed to enable the building and maintaining of relationships with Traditional Custodians to leave a lasting legacy, including strengthening of Traditional Custodians' capacity to care for and manage Country, including Sea Country. The Strategy was developed with inputs from Traditional Custodians and contains four pillars that direct Woodside's social investment, policies relating to economic development, procurement and employment, and Woodside's agreement making and implementation of agreements. The pillars are:

1. Culture and Heritage Management: support social outcomes through protection, recognition and respect for culture and heritage;
2. Economic Participation: provide training, jobs, and business opportunities;

3. Capability and capacity: ensure strong corporate governance, leadership development and education initiatives to support self-determination; and
4. Safer and Healthier Communities: partner with Aboriginal people and service providers to maximise safer and healthier community outcomes.

Woodside is committed to an ongoing relationship between Woodside and the Traditional Custodian groups. Through consultation with Traditional Custodians Woodside will continue to:

- establish support for Indigenous ranger programs via social investment;
- establish support for Indigenous oil spill response capability via investigating training models;
- establish support for identification and recording of cultural values and the management of that information by Traditional Custodians;
- establish support for programs identified by the Traditional Custodians as important to them and as agreed by Woodside.

4. Support for capacity and capability in relation to governance

Pillar 3 of the Indigenous Affairs Strategy 2019 focuses on ensuring strong corporate governance, leadership development and education initiatives to support self-determination. To enable this, Woodside will support measures to increase the capability and capacity of the Traditional Custodian groups, including in relation to governance and management systems.

The nature of this support will be informed by the individual needs of Traditional Custodian groups, but may include:

- funding or other support for community meetings, particularly where consultation with representative bodies lies outside of that body's core business and cultural authority or mandate needs to be secured,
- resourcing internal expertise so that information is managed consistently and internally, including ensuring appropriate record keeping of consultation to provide stakeholders with a lasting record of discussions, and
- development or upgrade of IT systems to manage information.

5. Program Reporting and Review of Effectiveness

Woodside will undertake an annual review of the Program to assess its effectiveness and adapt the Program accordingly. The annual review will also include an assessment of appropriateness of the methods used to undertake ongoing consultation with Traditional Custodians.
Progress of the Program will be reported annually in line with annual sustainability reporting via the Woodside website.

6. Current Status

Following distribution of this proposed Program, Woodside is now participating in a number of specific ongoing consultation activities with Traditional Custodian Relevant Persons. Specific ongoing activities are tabulated below:

Traditional Custodian Relevant Person	Ongoing Consultation Description	Forward Plan	Estimated Timeframes
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	BTAC proposed a Collaboration Agreement in May 2023, Woodside agreed in principle, and exchanged correspondence to understand details of the proposal. The Collaboration Agreement would enable support for BTAC to undertake an ethnographic assessment to articulate values, and ensure appropriate cost recovery	Woodside and BTAC have executed a Costs Acceptance Letter. Woodside has developed a Collaboration Agreement which is currently under internal Woodside review. Once settled internally it will be put to BTAC for their consideration.	The draft Collaboration Agreement will be provided to BTAC for consideration in November 2023. Woodside will follow up on a monthly basis for at least six months with BTAC once they are in receipt of the draft proposed Collaboration Agreement from Woodside, or until the Agreement is in place.
Yamatji Marlpa Aboriginal Corporation (YMAC)	In June 2023, YMAC provided Woodside a proposed draft Framework Agreement, and a proposal to fund in-house expertise to support consultation and implement the Collaboration Framework. In July 2023, Woodside agreed in principle to the proposed Collaboration Framework and the funding proposal and requested a meeting to work together on details. Woodside provided the Proposed Program of Ongoing Consultation to complement the proposed Collaboration Framework.	Woodside will continue to communicate with YMAC, seeking to collaborate and reach agreement on the proposed Collaboration Framework and funding agreement. At the point of EP submission, Woodside is seeking a meeting with YMAC at YMAC's earliest convenience.	Woodside will follow up with YMAC on a monthly basis for at least six months, seeking to progress the Collaboration Framework and funding agreement.
Wirrawandi Aboriginal Corporations (WAC)	In August 2023, WAC proposed a Framework Agreement with Woodside to provide a streamlined, formalised approach to consultation between WAC and Woodside. Woodside has confirmed receipt of the proposed framework from WAC.	Woodside is in contact with the WAC CEO and is currently developing a response to the proposed Framework Agreement put forward by WAC. WAC do not object to Woodside progressing environmental plans on the proviso that both parties enter into an Agreement suitable to each party. WAC have suggested a timeframe to settle the Agreement over the next 2-3 months. Woodside will be aiming to reach agreement within a shorter timeframe.	Ongoing Framework Agreement settled in 2023.
Ngarluma Aboriginal Corporation (NAC)	In September 2023, NAC proposed a Joint Working Group to practically manage consultation processes. It was proposed that the group would meet monthly for 2023 and quarterly thereafter, meetings would include NAC CEO and NAC Directors and potentially independent SME/s, the proposal was that Woodside draft a Framework Agreement, and included a request for funding for this approach. Woodside provided in-principle support for the proposal.	Woodside has provided in-principle support for NAC's proposal and is currently developing a draft Framework Agreement which once settled internally will be sent to NAC for their response.	In accordance with NAC's proposed timeframe, Woodside aims to prepare a draft Framework Agreement, settle internally and then meet to discuss in 2023.
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	In a meeting during August 2023, NTGAC proposed a Framework Agreement. This included terms for ongoing	Woodside and NTGAC/YMAC have agreed in writing to develop a Framework Agreement. Woodside have been responding to queries from NTGAC who have passed	Woodside will follow up with NTGAC on a monthly basis for at least six months, seeking to

	engagement such as frequency of consultation, participation, and content. NTGAC has also requested Woodside provide funding for an in-house environmental scientist to review material. Woodside agreed in principle to this approach, and has requested a first draft of the Framework Agreement for consideration. Woodside have agreed to pay for YMAC's in-house scientist to attend NTGAC meetings to advise NTGAC.	information provided by Woodside onto their Environmental Scientist. Woodside are awaiting a proposed draft of a Framework Agreement and general report. YMAC's preference is to prepare the drafts, Woodside have offered to assist with drafting and remain ready to respond on receipt of documents.	progress the Framework Agreement and General report.
Yinggarda Aboriginal Corporation (YAC)	In August 2023, YAC requested Woodside provide a draft Framework Agreement for their consideration. Woodside has provided a draft Framework Agreement to YAC for review.	Woodside's Proposal suggests meeting with YAC every 3 months to progress matters. The Proposal suggests committing to work continuing between meetings with each party nominating focal points. A Scope of Work and schedule of rates is included to re-imburse the cost of ongoing consultation. Woodside's Proposal includes timeframes for anticipated milestones and has suggested the Proposal be in place for an initial 2-year period. Woodside has provided the draft Framework Agreement to YAC; they have advised that they will seek direction from the YAC Board on the proposal.	Woodside will continue following up with YAC on a monthly basis for at least six months, seeking to progress the Framework Agreement.
Robe River Kuruma Aboriginal Corporation (RRKAC)	RRKAC have noted that they are insufficiently resourced to engage further and respond to Woodside regarding EPs. Woodside assesses that a Framework Agreement could address this.	Woodside has on several occasions written to RRKAC offering to fund consultation meetings. Woodside will offer RRKAC a Framework Agreement which will propose funding, scope of work and timeframes to assist with consultation and ongoing consultation. If RRKAC are open to the proposal, it is intended to put forward a draft Framework Agreement to RRKAC within the next 2 months.	Woodside will follow up with RRKAC monthly for at least six months, seeking to progress a Framework Agreement.
Ngarluma Yindjibarndi Foundation Limited (NYFL)	NYFL and Woodside have an existing Agreement in place which enables quarterly communication about Woodside activities. NYFL has said they are working with other First Nations organisation and representative Bodies developing a Framework Agreement.	Woodside has not yet seen a draft of the Framework Agreement. Woodside's expectation is that it will outline principles of engagement, details of resourcing, timeframes to meet agreed outcomes etc. Woodside look forward to receiving a draft Agreement and will engage with NYFL to settle on the details of any proposal.	Woodside will continue to follow up monthly with NYFL for at least six months, seeking to progress a Framework Agreement.
Yindjibarndi Aboriginal Corporation	Yindjibarndi have advised that they are represented by NYFL for consultation on oil and gas matters. NYFL and Woodside have met to discuss the consultation framework to be used by NYFL as representatives of Yindjibarndi. Woodside will seek to use the Framework Agreement proposed by NYFL (above) for ongoing consultation with Yindjibarndi.	Per NYFL above.	Per NYFL above.
Kariyarra Aboriginal Corporation (KAC)	In September 2023 KAC proposed an agreement which would include meeting arrangements, ongoing consultations, specialist advice and contact protocols.	Woodside support funding request that are reasonable and will seek to reach agreement on a funding proposal put forward by KAC. Woodside agrees that a Framework Agreement is a sound tool to set out ongoing consultation with KAC, funding arrangements and social investment opportunities that KAC would want explored. Woodside will propose a first draft of an agreement and put to KAC in the	Woodside will continue to follow up monthly with KAC for at least six months, seeking to progress a Framework Agreement.

		first instance. Woodside will prepare a draft agreement within the next two months to for KAC's consideration.	
Bardi and Jawi Niimidiman Aboriginal Corporation (BJNAC)	In June 2023, BJNAC provided Woodside a draft resourcing protocol for consultation. Woodside noted that the draft protocol was drafted with a focus on land based activities that fall within the BJNAC native title determination, as opposed to offshore activities. In October 2023, BJNAC and Woodside met to review the resourcing protocol, which resulted in some small changes being agreed. BJNAC and Woodside agreed that both organisations were on the same page for ongoing consultation.	Woodside supports funding request that are reasonable.. Woodside agrees that the resourcing protocol is a sound tool to set out ongoing consultation with BJNAC, funding arrangements and employment, training and contracting opportunities that BJNAC want to explore. Woodside is awaiting BJNAC's revised protocol.	Woodside will continue to follow up monthly with BJNAC for at least six months, seeking to progress a Resourcing Protocol.
Karajarri Traditional Lands Association (KTLA)	.On 19 April 2023 and 2 May 2023, KTLA said they would seek funding support from Woodside and were developing paperwork/proposal for sending to Woodside.	Woodside supports funding requests that are reasonable. Woodside is awaiting KTLA's proposal.	Woodside will continue to follow up monthly with KTLA for at least six months, seeking to progress a Framework Agreement.

APPENDIX F STAKEHOLDER CONSULTATION

Appendix F: Okha FPSO Facility Operations Environment Plan

July 2025

Revision 0

Document No. EH0000AH1401804326

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1. CONSULTATION APPROACH

For the Okha FPSO Facility Operations Environment Plan (EP), Woodside has taken a broad and proactive tiered consultation approach over a period of 3 months.

This approach was aimed at raising public awareness of the consultation opportunity and to enable self-identification. It included a social media campaign and advertising in national, state, regional and Indigenous newspapers.

The tiered consultation approach discharges regulation 25 of the Environment Regulations' requirements. The approach is proactive, extended, has enabled self-identification, and has raised broad awareness of Woodside's activities related to this EP.

1.1 Tiered consultation approach

Regulation 25	Woodside's consultation approach assessed and identified relevant persons, enabled two-way dialogue and engagement, and included email and phone call follow up. The approach taken comfortably satisfies the requirements of regulation 25: to give relevant persons sufficient information and allow a reasonable period of time for consultation (see Section 5 in the EP).
Proactive	To raise awareness of the consultation process, and to enable grass-roots consultation, Woodside undertook advertised regional consultation roadshows and facilitated consultation at regional community events.
Broad Understanding	Broad communication activities were undertaken to build awareness of consultation and enable self-identification, supported by targeted education materials.

1.2 Building on the existing consultation approach

For this EP, Woodside has built on its consultation methodology and undertaken additional consultation activities throughout the consultation period to ensure a reasonable period of time and sufficient information has been provided to relevant persons so that they can make an informed assessment of the possible consequences of the activity on their functions, interests or activities.

The approach for this included:

- a consultation period of up to 3 months
- undertaking proactive consultation activities to provide sufficient information to relevant persons
- raising awareness of the consultation process and opportunity to provide feedback
- driving participation in the consultation process.

An overview of this approach is shown below:

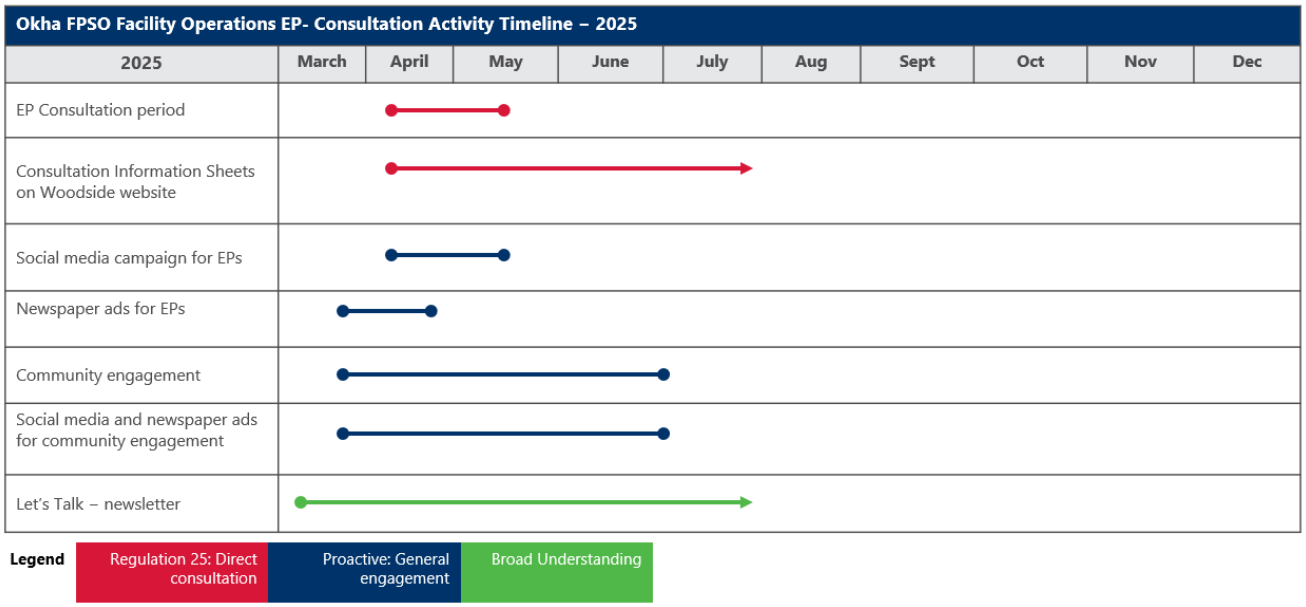


Figure 1-1: Okha FPSO Facility Operations consultation activity

1.3 Traditional custodian consultation approach

Woodside has meaningful long-term relationships with relevant Traditional Custodians specifically tailored to provide for effective engagement which is continuous and is not confined to individual EPs, instead covering all EPs and other issues that are relevant at the time of engagement.

To this end, consultation on any particular EP, including the Okha FPSO Facility Operations EP, happens before, during and after the designated consultation period in a more holistic manner allowing for an understanding of the bigger picture and accommodating cultural requirements. Ongoing consultation remains an important part of consulting with Traditional Custodians based on availability, cultural protocols and the preferred method of consultation for each relevant person.

1.4 NGO consultation approach

Woodside has an established history of consulting with environmental non-government organisations (NGOs) as part of its EP consultation. In its methodology (Section 5.3.4, Table 5-2), NGOs are considered "Other non-government groups or organisations" and "Research institutes and local conservation groups or organisations". Relevant person identification for these categories is based on registered non-government groups or organisations with current targeted public website material specific to the proposed activity at the time of developing the EP and who have demonstrated functions, interests or activities relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation.

So that NGOs were given sufficient information and a reasonable period of time to consult, Woodside:

- advertised the consultation period (social and traditional media)
- directly consulted NGOs
- participated in regional community events (which were advertised) in the Pilbara which could be attended by any NGOs including local groups (if NGOs attended these sessions, they did not identify themselves)

2. RELEVANCY ASSESSMENT

2.1 Assessment of relevant persons for the proposed activity

The result of Woodside's assessment of relevant persons in accordance with regulation 25 (1) of the Environment Regulations is outlined below at Table 1 and Table 2.

Persons or organisations that Woodside assessed as not relevant but nonetheless chose to contact at its discretion in accordance with Section 5.3.7 in the EP or self-identified and Woodside assessed as not relevant are summarised below at Table 1 and Table 3.

As per Woodside's methodology (Section 5 in the EP), assessment of relevant persons is informed by the EMBA, shown in Figure 2-1.

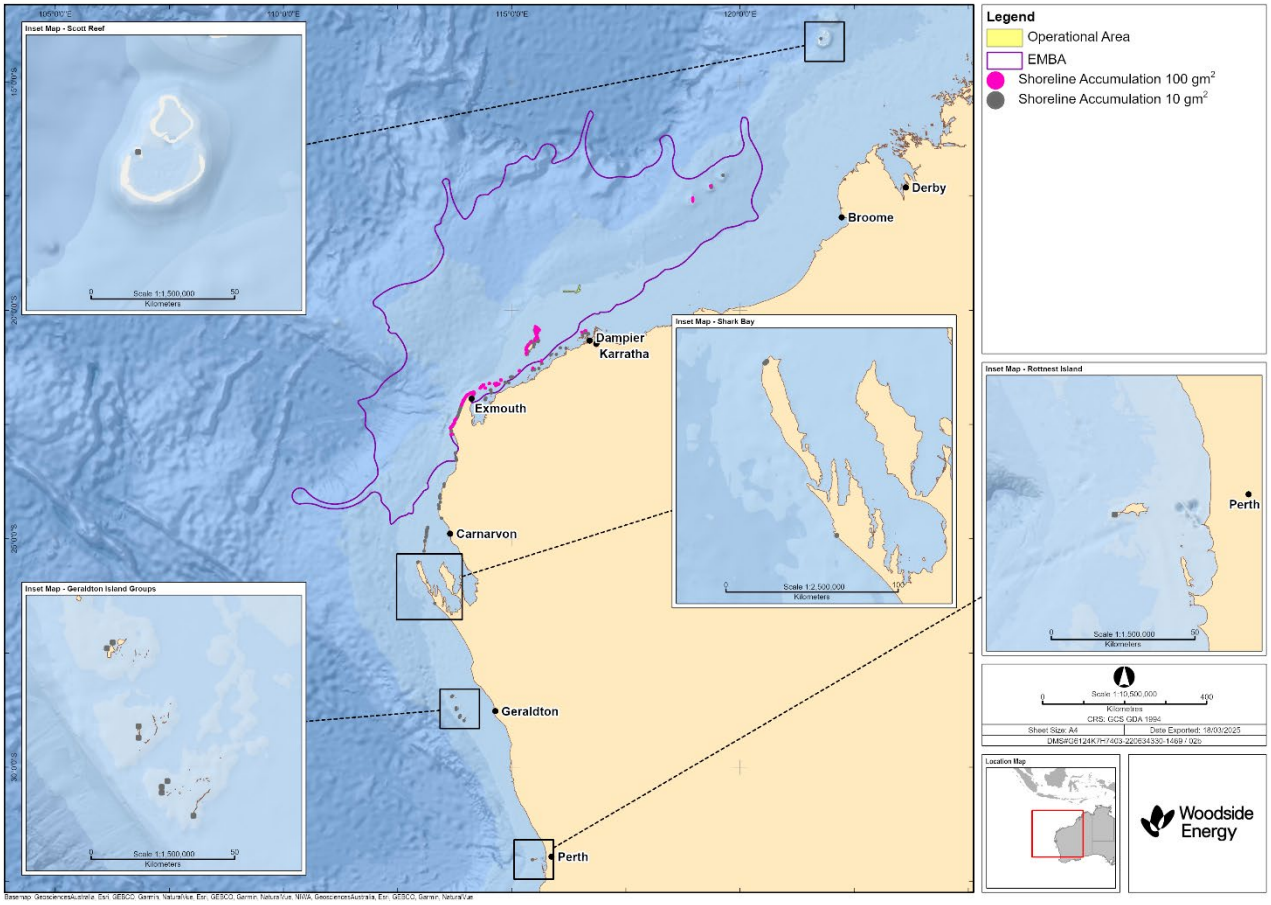


Figure 2-1: Operational Area and EMBA for this EP

2.2 Table 1: Assessment of relevance

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Commonwealth and WA State Government Departments or Agencies – Marine			
Australian Border Force (ABF)	Responsible for coordinating maritime security	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. ABF's responsibilities may be relevant to the activity as there are proposed vessel activities.	Yes
Australian Communications and Media Authority (ACMA)	Regulator for communications and media	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. ACMA's responsibilities aren't relevant to the activity as telecommunications lines do not intersect the Operational Area but are in proximity to it. Woodside chose to contact ACMA at its discretion in line with Section 5.3.7 of the EP.	No
Australian Fisheries Management Authority (AFMA)	Responsible for managing Commonwealth fisheries	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. No Commonwealth fisheries are active in the Operational Area. The North West Slope Trawl Fishery, Western Deepwater Trawl Fishery and Western Tuna and Billfish Fishery are active in the EMBA. AFMA's responsibilities may be relevant to the activity as the North West Slope Trawl Fishery, Western Deepwater Trawl Fishery and Western Tuna and Billfish Fishery are active in the EMBA.	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Australian Hydrographic Office (AHO)	Responsible for maritime safety and Notices to Mariners	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. AHO's responsibilities may be relevant to the activity as there are proposed vessel activities.	Yes
Australian Maritime Safety Authority (AMSA) – Marine Pollution	Legislated responsibility for oil pollution response in Commonwealth waters	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. AMSA – Marine Pollution's responsibilities may be relevant to the activity as the proposed activity has a hydrocarbon spill risk which may require AMSA response in Commonwealth waters.	Yes
Australian Maritime Safety Authority (AMSA) – Maritime Safety	Statutory agency for vessel safety and navigation	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. AMSA – Maritime Safety's responsibilities may be relevant to the activity as there are proposed vessel activities.	Yes
Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries	Responsible for implementing Commonwealth policies and programs to support agriculture, fishery, food and forestry industries	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. No Commonwealth fisheries are active in the Operational Area. DAFF – Fisheries responsibilities may be relevant to the activity as the North West Slope Trawl Fishery, Western Deepwater Trawl Fishery and Western Tuna and Billfish Fishery are active in the EMBA.	Yes
Department of Defence (DoD)	Responsible for defending Australia and its national interests.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(a) of the Environment Regulations. DoD's responsibilities may be relevant to the activity as defence training areas lie within the EMBA.	Yes
Department of Planning, Lands and Heritage (DPLH)	Responsible for state level land use planning and management, and oversight of Aboriginal cultural heritage and built heritage matters.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. There is known Maritime Cultural Heritage overlapping the EMBA.	Yes
Department of Primary Industries and Regional Development (DPIRD)	Responsible for managing State fisheries	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations.	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
		The Mackerel Managed Fishery (Area 2), Pilbara Trawl Managed Fishery, Pilbara Trap Managed Fishery and Pilbara Line Fishery are active in the Operational Area. The West Coast Demersal Scalefish Managed Fishery, West Coast Purse Seine Fishery, Abrolhos Islands and Mid West Trawl Managed Fishery, Abalone Managed Fishery, Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery, Mackerel Managed Fishery (Area 2), Marine Aquarium Fish Managed Fishery, Nickol Bay Prawn Managed Fishery, Northern Demersal Scalefish Managed Fishery, Octopus Interim Managed Fishery. Onslow Prawn Managed Fishery, West Coast Rock Lobster Managed Fishery, Pilbara Crab Managed Fishery, Pilbara Fish Trawl Managed Fishery, Pilbara Trap Managed Fishery, Pilbara Line Fishery, Shark Bay Crab Managed Fishery, Shark Bay Prawn Managed Fishery, Shark Bay Scallop Managed Fishery, South West Trawl Fishery, Specimen Shell Managed Fishery, West Coast (Beach Bait Fish Net) Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, West Coast Demersal Gillnet and Demersal Longline Fishery have been active in the EMBA within the last 5 years. DPIRD's responsibilities may be relevant to the activity as the government department responsible for State fisheries.	
Department of Transport (DoT)	Legislated responsibility for oil pollution response in State waters	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The proposed activity has a hydrocarbon spill risk, which may require DoT response in State waters.	Yes
Pilbara Ports Authority (PPA)	PPA encompasses the Ports of Ashburton, Dampier, Port Hedland and Varanus Island. PPA oversees the operation of the greenfield ports of Anketell, Balla Balla, Cape Preston East, Cape Preston West and Urala. PPA oversees the Shipping and Pilotage Act 1967 (SPA) ports of Barrow Island, Cape Preston, Onslow and Port Walcott.	Woodside has applied its methodology for 'Government departments / agencies – marine' under regulation 25(1)(b) of the Environment Regulations. The proposed activity has the potential to impact Pilbara Ports Authority's responsibilities as the EMBA overlaps the Pilbara Ports Authority's area of responsibility.	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Commonwealth and WA State Government Departments or Agencies – Environment			
Clean Energy Regulator (CER)	The Clean Energy Regulator administers schemes legislated by the Australian Government for measuring, managing, reducing or offsetting Australia's carbon emissions, determined by climate change law.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations. CER's responsibilities will be relevant to operational EPs in relation to emissions and climate related matters.	Yes
Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (marine pests, vessels, aircraft and personnel)	DAFF administers, implements and enforces the Biosecurity Act 2015. The Department requests to be consulted where an activity has the potential to transfer marine pests. DAFF also has inspection and reporting requirements to ensure that all conveyances (vessels, installations and aircraft) arriving in Australian territory comply with international health regulations and that any biosecurity risk is managed. The Dept requests to be consulted where an activity involves the movement of aircraft or vessels between Australia and offshore petroleum activities either inside or outside Australian territory.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations. DAFF – Biosecurity's responsibilities may be relevant to the proposed activities in the EMBA in the prevention of introduced marine species.	Yes
Department of Biodiversity, Conservation and Attractions (DBCA)	Responsible for managing WA's parks, forests and reserves to achieve wildlife conservation and provide sustainable recreation and tourism opportunities.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(b) of the Environment Regulations. The DBCA's responsibilities may be relevant to the activity as the EMBA overlaps WA parks, forests or reserves. Activities have the potential to impact marine tourism in the EMBA.	Yes
Department of Climate Change, Energy, the	Responsible for implementing Commonwealth policies and programs to support climate change, sustainable	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations.	Yes

Person or Organisation	Summary of responsibilities and/or functions, interests or activities	Assessment of relevance	Relevant person
Environment and Water (DCCEEW)	energy use, water resources, the environment and our heritage. Administers the Underwater Cultural Heritage Act 2018 in collaboration with the States, Northern Territory and Norfolk Island, which is responsible for the protection of shipwrecks, sunken aircraft and other types of underwater heritage and their associated artefacts in Commonwealth waters.	DCCEEW's responsibilities may be relevant to the proposed activities in the EMBA as there are potential environmental impacts from the proposed activity. There is known Maritime Cultural Heritage overlapping the EMBA.	
Director of National Parks (DNP)	Responsible for the management of Commonwealth parks and conservation zones.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations. DNP's responsibilities may be relevant to the activity as DNP requires an awareness of activities that occur within Australian Marine parks (AMPs) and an understanding of potential impacts and risks to the values of parks (NOPSEMA guidance note: N-04750-GN1785 A620236, June 2020). DNP's responsibilities may be relevant to the activity as DNP requires an awareness of activities that occur within Australian Marine Parks (AMPs), and an understanding of potential impacts and risks to the values of parks (NOPSEMA guidance note: N-04750-GN1785 A620236, June 2020). Titleholders are required to consult DNP on offshore petroleum activities if they occur in, or may impact on the values of marine parks, including where potential spill response activities may occur in the event of a spill (i.e. scientific monitoring).	Yes
Ningaloo Coast World Heritage Advisory Committee (NCWHAC)	Supports the DBCA to manage the Ningaloo Coast World Heritage Area.	Woodside has applied its methodology for 'Government departments / agencies – environment' under regulation 25(1)(a) of the Environment Regulations. The NCWHAC's responsibilities may be relevant to the activity as the EMBA overlaps the Ningaloo Marine Park.	Yes
Commonwealth and State Government Departments or Agencies – Industry			
Department of Energy, Mines, Industry Regulation and Safety (DEMIRS)	Department of relevant State Minister	Required to be consulted under regulation 25(1)(c) of the Environment Regulations.	Yes

Department of Industry, Science and Resources (DISR)	Department of relevant Commonwealth Minister.	Required to be consulted under regulation 25(1)(a) of the Environment Regulations.	Yes
Commonwealth commercial fisheries and peak representative bodies			
Australian Southern Bluefin Tuna Industry Association (ASBTIA)	Represents the interests of the Southern Bluefin Tuna Fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The Southern Bluefin Tuna Fishery has been assessed as not relevant to the proposed activity. As the peak representative body for the Southern Bluefin Tuna Fishery, the ASBTIA has also been assessed as not relevant.	No
Commonwealth Fisheries Association (CFA)	Represents the interests of commercial fishers with licences in Commonwealth waters	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. No fisheries are active in the Operational Area. The North West Slope Trawl Fishery, Western Deepwater Trawl Fishery and Western Tuna and Billfish Fishery are active in the EMBA. CFA's functions may be relevant to the activity as the North West Slope Trawl Fishery, Western Deepwater Trawl Fishery and Western Tuna and Billfish Fishery are active in the EMBA.	Yes
North West Slope Trawl Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.	Yes
Pearl Producers Association (PPA)	Peak representative organisation of The Australian South Sea Pearling Industry, with members in Western Australia and the Northern Territory	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The Pearl Oyster Managed Fishery has been assessed as not relevant to the proposed activity. As the peak representative body for the Pearl Oyster Managed Fishery, the PPA has also been assessed as not relevant.	No

Southern Bluefin Tuna Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, it has not been active in the Operational Area or EMBA within the last 5 years. Woodside does not consider that the proposed activity will present a risk to licence holders, given since 1992, the majority of Australian catch has concentrated in south-eastern Australia. (Patterson et al., 2022). In addition, given fishing methods by licence holders for species fished in this fishery (Australia has a 35% share of total global allowable catch of Southern Bluefin Tuna, which is value-added through tuna ranching near Port Lincoln (South Australia), or fishing effort in New South Wales (Australian Southern Bluefin Tuna Industry Association).	No
Tuna Australia	Represents the interests of the Western Tuna and Billfish Fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The Western Tuna and Billfish Fishery is active within the EMBA. Tuna Australia's functions may be relevant to the activity as the Western Tuna and Billfish Fishery is active in the EMBA.	Yes
Western Deepwater Trawl Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps EMBA and has been active in the EMBA within the last 5 years.	Yes
Western Skipjack Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, it has not been active in the Operational Area or EMBA within the last 5 years. Woodside does not consider that the activity will present a risk to licence holders, given the fishery spans the Australian Fishing Zone west of Victoria and the Torres Strait. The Fishery is not currently active, and no fishing has occurred since 2009 (Patterson et al., 2022). In addition, interactions are not expected given the species' pelagic distribution fishing methods for species fished by licence holders.	No

Western Tuna and Billfish Fishery	Commonwealth commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area, it has not been active in the Operational Area within the last 5 years. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years.	Yes
State commercial fisheries and peak representative bodies			
Western Australian Fishing Industry Council (WAFIC)	Represents the interests of commercial fishers with licences in State waters.	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The Mackerel Managed Fishery (Area 2), Pilbara Trawl Managed Fishery, Pilbara Trap Managed Fishery and Pilbara Line Fishery have been active in the Operational Area within the last 5 years. The West Coast Demersal Scalefish Managed Fishery, West Coast Purse Seine Fishery, Abrolhos Islands and Mid West Trawl Managed Fishery, Abalone Managed Fishery, Exmouth Gulf Prawn Managed Fishery, Gascoyne Demersal Scalefish Managed Fishery, Mackerel Managed Fishery (Area 2), Marine Aquarium Fish Managed Fishery, Nickol Bay Prawn Managed Fishery, Northern Demersal Scalefish Managed Fishery, Octopus Interim Managed Fishery. Onslow Prawn Managed Fishery, West Coast Rock Lobster Managed Fishery, Pilbara Crab Managed Fishery, Pilbara Fish Trawl Managed Fishery, Pilbara Trap Managed Fishery, Pilbara Line Fishery, Shark Bay Crab Managed Fishery, Shark Bay Prawn, Managed Fishery, Shark Bay Scallop Managed Fishery, South West Trawl Fishery, Specimen Shell Managed Fishery, West Coast (Beach Bait Fish Net) Managed Fishery, West Coast Deep Sea Crustacean Managed Fishery, West Coast Demersal Gillnet and Demersal Longline have been active in the EMBA within the last 5 years. WAFIC's functions may be relevant to the activity as the peak representative body for State fisheries. Under an agreement WAFIC issued consultation materials to relevant commercial fisheries licence holders. Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting, via WAFIC, fisheries that are assessed as having a potential for interaction in the Operational Area. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation	Yes

		with State fisheries relevant to the EMBA of the proposed activity would be undertaken only in the event of an unplanned emergency scenario.	
Abalone Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area, it has not been active in the Operational Area within the last 5 years. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Aquaculture Council of Western Australia (ACWA)	State peak body for WA's aquaculture industry.	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. ACWA's members are active within the EMBA. As the peak body for WA's aquaculture industry, ACWA's functions may be relevant to the activity as ACWA members are active in the EMBA.	Yes
Developmental Octopus Interim Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations The fishery does not overlap the Operational Area but overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Exmouth Gulf Prawn Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.	No

		The fishery does not overlap the Operational Area but overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	
Gascoyne Demersal Scalefish Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area but overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Kimberley Crab Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. Although the fishery overlaps the EMBA, the fishery has not been active in the EMBA within the last 5 years.	No
Mackerel Managed Fishery (Area 2)	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery overlaps the Operational Area and EMBA and has been active in the Operational Area and EMBA within the last 5 years. Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting fisheries that are assessed as having a potential for interaction in the Operational Area via WAFIC.	Yes
Marine Aquarium Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area, it has not been active in the Operational Area within the last 5 years. The fishery overlaps the EMBA and has	No

		been active in the EMBA within the last 5 years, however based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	
Nickol Bay Prawn Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Northern Demersal Scalefish Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Onslow Prawn Managed Fishery (Area 1and 2)	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area, it has not been active in the Operational Area within the last 5 years. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 year, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation	No

		with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	
Pearl Oyster Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area or EMBA within the last 5 years.	No
Pilbara Crab Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. Although the fishery overlaps the EMBA, the fishery has not been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Demersal Scalefish Fishery: Pilbara Trawl Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery overlaps the Operational Area and EMBA and has been active in the Operational Area and EMBA within the last 5 years. Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting fisheries that are assessed as having a potential for interaction in the Operational Area via WAFIC.	Yes
Demersal Scalefish Fishery: Pilbara Trap Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery overlaps the Operational Area and EMBA and has been active in the Operational Area and EMBA within the last 5 years.	Yes

		Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting fisheries that are assessed as having a potential for interaction in the Operational Area via WAFIC.	
Demersal Scalefish Fishery: Pilbara Line Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery overlaps the Operational Area and EMBA and has been active in the Operational Area and EMBA within the last 5 years. Woodside acknowledges WAFIC's consultation guidance and has applied this by consulting fisheries that are assessed as having a potential for interaction in the Operational Area via WAFIC.	Yes
Shark Bay Crab Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area but overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Shark Bay Prawn Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area but overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Shark Bay Scallop Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations.	No

		The fishery does not overlap the Operational Area but overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	
South West Coast Salmon Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area or EMBA within the last 5 years.	No
Specimen Shell Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area, it has not been active in the Operational Area within the last 5 years. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
West Coast Deep Sea Crustacean Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area, it has not been active in the Operational Area within the last 5 years. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No

West Coast Demersal Gillnet & Demersal Longline Interim Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area but overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
West Coast Demersal Scalefish Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area but overlaps the EMBA and has been active in the EMBA within the past 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
West Coast Rock Lobster Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area but overlaps the EMBA and has been active in the EMBA within the past 5 years.	Yes
Western Rock Lobster Council	Represents the interests of the Western Rock Lobster Managed Fishery.	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The West Coast Rock Lobster Managed Fishery is active within the EMBA.	Yes

		The Western Rock Lobster Council's functions may be relevant to the activity as the West Coast Rock Lobster Managed Fishery is active in the EMBA.	
North Coast Shark Fishing	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. Although the fishery overlaps the Operational Area and EMBA, the fishery has not been active in the Operational Area or EMBA within the last 5 years.	No
West Coast Purse Seine Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Southwest Trawl Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario. .	No
West Coast Beach Bait Fish Net Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation	No

		with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	
Abrolhos Islands and Mid West Trawl Managed Fishery	State commercial fishery	Woodside has applied its methodology for 'Commercial fisheries (Commonwealth and State) and peak representative bodies' under regulation 25(1)(d) of the Environment Regulations. The fishery does not overlap the Operational Area. The fishery overlaps the EMBA and has been active in the EMBA within the last 5 years, however, based on WAFIC's advice, Woodside does not need to consult fisheries in the EMBA. As per WAFIC's Commercial Fishing Consultation Framework for the Offshore Oil and Gas Sector and Consultation Approach for Unplanned Events, consultation with State fisheries relevant to the EMBA of the proposed activity would however be undertaken only in the event of an unplanned emergency scenario.	No
Recreational marine users and peak representative bodies			
Gascoyne Recreational Marine Users	Gascoyne-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Andro Maritime Services Australia, Aquatic Adventure Exmouth, Birds Eye View, Blue Horizon Charters, Blue Lightning Charters, Cape Immersion Tours, Coastal Adventure Tours, Coral Bay Ecotours, Cruise Ningaloo, Dampier Island Tourism, Dive Ningaloo, Evolution Fishing Charters, Exmouth adventure co., Exmouth Dive Centre, Indian Chief Charters, Innkeeper Sport Fishing, Innkeeper Sport Fishing Charter, Kings Ningaloo Reef Tours, Live Ningaloo, Mahi Mahi Fishing Charters, Montebello Island Safaris, Ningaloo Aviation, Ningaloo Blue, Ningaloo Coral Bay Boats, Ningaloo Discovery, Ningaloo Ecology Cruises, Ningaloo Fly Fishing, Ningaloo Marine Interaction, Ningaloo Reef Dive, Ningaloo Reef To Range Tours, Ningaloo Safari Tours, Ningaloo Sportfishing Charters, Ningaloo Whaleshark N Dive, Ningaloo Whaleshark Swim, Ocean Eco Adventures, Peak Sportfishing Charters, Pelican Charters, Sail Ningaloo, Sea Force Charters, Set The Hook, Three Islands, Top Gun Charters, Ultimate Watersports, Venture Ningaloo, View Ningaloo, Warrior Princess Charters, Yardi Creek Boat Tours, Aoa International Pty Ltd, Aspa Pastrikos, Austanley Pty Ltd, Blue Juice Tours Pty Ltd, Bondall Pty Ltd, C Emery Fishing Pty Ltd, Chapel Nominees Pty Ltd, D & N Nominees Pty Ltd, Eco-Abrolhos Pty Ltd, Fawesome Expeditions Pty Ltd, Fire Tiger Pty Ltd, G. C. Bass nominees pty ltd, Jostan Holdings Pty Ltd, Km Charters Pty Ltd, Kw Marine Pty Ltd, L & S Family Holdings Pty Ltd, Lulamanzi Investments Pty Ltd, Lyons Family Super Pty Ltd, Makalee Pty Ltd, Maritime Engineering Services Pty Ltd, Melkit Pty Ltd, Millennial Charters Pty Ltd, Monkey Mia Yacht Charters Pty Ltd, Monster Sportfishing Adventures Pty Ltd, North Star Cruises Australia Pty Ltd,	Yes

		On Strike Charters (Wa) Pty Ltd, Reel Force Charters Pty Ltd, Regalchoice Holdings Pty Ltd, Seafresh Holdings Pty Ltd, Sharkbay Charters Pty Ltd, Surefire Marine Services Pty Ltd, The Great Escape Charter Company Pty Ltd, W.A Maritime Investments Pty Ltd. Activities have the potential to impact Gascoyne-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	
Marine Tourism WA	Represents the interests of marine tourism in WA.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Activities have the potential to impact recreational fishers' functions, interests or activities due to the location offshore and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
Pilbara/Kimberley Recreational Marine Users	Pilbara/Kimberley-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Marine Rescue Dampier, Port Walcott Volunteer Marine Rescue , West Pilbara Volunteer Sea Search and Rescue Group, Archipelago Adventures, Hampton Harbour Boat & Sailing Club, Port Walcott Yacht Club , Reef Seeker Charters, King Bay Game Fishing Club, Nickol Bay Sport Fishing Club, Bardina Pty Ltd, Down the Line Charters Pty Ltd, Mackerel Islands Pty Ltd, Ocean Charters Pty Ltd, Serenity Isles Trading Company Pty Ltd, Wyndham Fishing Tours Pty Ltd, Charter Travel Company Pty Ltd, Kw Marine Pty Ltd, Norbrick Pty Ltd, Sail Ningaloo Pty Ltd, Tiffom Pty Ltd, Aoa International Pty Ltd, Australian Port And Marine Services Pty Ltd, Bloor Street Investments Pty Ltd, Blue Juice Tours Pty Ltd, Bondall Pty Ltd, Brefjen Nominees Pty Ltd, Broome Chiropractic Pty Ltd, Broome Tours Pty Ltd, C Emery Fishing Pty Ltd, Chapel Nominees Pty Ltd, Charter Express Pty Ltd, CM Ventures Pty Ltd, Coastway Investments Pty Ltd, Coral Princess Cruises (Nq) Pty Ltd, Discovery Holiday Parks Pty Limited, Diversity Charter Company Wa Pty Ltd, Eco-Abrolhos Pty Ltd, Fawesome Expeditions Pty Ltd, G. C. Bass nominees pty ltd, Hartley Motorcycles Pty Ltd, Hotel And Resort Investments Pty Ltd, Humbug Fishing Pty Ltd, Kcc Group Pty Ltd, Kimberley Getaway Cruises Pty Ltd, Kimberley Marine Pty Ltd, Kimberley Quest Adventures Pty Ltd, King Sound Resort Hotel Pty Ltd, Kw Marine Pty Ltd, L & S Family Holdings Pty Ltd, Lake Argyle Cruises Pty Ltd, Lombadina Aboriginal Corporation, Lugger Enterprises Pty Ltd, Lulamanzi Investments Pty Ltd, Mackerel Islands Pty Ltd, Mal Miles Adventures Pty Ltd, Marine Agents Australia Pty Ltd, Maritime Engineering Services Pty Ltd, Melkit Pty Ltd, Millennial Charters Pty Ltd, Monster Sportfishing Adventures Pty Ltd, North Star Cruises Australia Pty	Yes

		Ltd, Ocean Charters Pty Ltd, RSTG Pty Limited, Sea 2 Pty Ltd, Sealife Charters Pty Ltd, Split Tide Pty Ltd, Super Yachts Perth Pty Ltd, The Great Escape Charter Company Pty Ltd, W.A Maritime Investments Pty Ltd, Willie Creek Pearl Farm Pty Ltd Activities have the potential to impact Pilbara/Kimberley-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	
Recfishwest	Represents the interests of recreational fishers in WA.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Activities have the potential to impact recreational fishers' functions, interests or activities due to the location offshore and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
WA Game Fishing Association	Represents the interests of game fishers in WA.	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Activities have the potential to impact game fishers' functions, interests or activities due to the location offshore and there has been recorded charter effort in the EMBA in the past 5 years.	Yes
West Coast Recreational Marine Users	West Coast-based dive, tourism and charter operators	Woodside has applied its methodology for 'Recreational marine users and representative bodies' under regulation 25(1)(d) of the Environment Regulations. Abbey Bay Pty Ltd, Allegretta Holdings Pty Ltd, Alltric Pty Ltd & Bluecity Enterprises Pty Ltd, Aoa International Pty Ltd, Aquatic Adventures (Wa) Pty Ltd, Avanova Pty Ltd, Blue Juice Tours Pty Ltd, Blue Water Adventure Charters Pty Ltd, Bluecity Enterprises Pty Ltd, Boarbarrell Pty Ltd, Bondall Pty Ltd, Brefjen Nominees Pty Ltd, Chapel Nominees Pty Ltd, Crensot Nominees Pty Ltd, D & N Nominees Pty Ltd, Discovery Iii Pty Ltd, Eco-Abrolhos Pty Ltd, El Alauron Pty Ltd, Fortitude Investments Australia Pty Ltd, G. C. Bass Nominees Pty Ltd, Indi Blue Pty Ltd, Jayson Fishing Company (Wa) Pty Ltd, Jostan Holdings Pty Ltd, Kempton Fisheries Pty Ltd, Kimble Gresham Sinclair Wheatley, Kw Marine Pty Ltd, Kybret Pty Ltd, L & S Family Holdings Pty Ltd, Latitude Fisheries Pty Ltd, Lugger Enterprises Pty Ltd, Lulamanzi Investments Pty Ltd, Makalee Pty Ltd, Maritime Engineering Services Pty Ltd, Millennial Charters Pty Ltd, North Star Cruises Australia Pty Ltd, Perth Diving Academy Hillarys Pty Ltd, Petara Pty Ltd, Red Dust Wa Pty Ltd, Pine Dene Nominees Pty Ltd, Porlock Investments Pty Ltd, Punchline Pty Ltd Trading As Karma Charters & Dorre Island Fishing Company, R & J Glass Pty Ltd, Reefwalker Pty Ltd, Reel Force Charters Pty Ltd, Riverblitz Pty Ltd, Rogue Seas Pty Ltd, Sea West Wa Pty Ltd, Sharkbay	Yes

		Charters Pty Ltd, Southern Salt Holdings Pty Ltd, Surefire Marine Services Pty Ltd, Temshore Pty Ltd, The Great Escape Charter Company Pty Ltd, Third Reef Pty Ltd, Timberlane Nominees Pty Ltd, Timberlane Nominees Pty Ltd Trading As Generation Fisheries, Viency Pty Ltd, W.A Maritime Investments Pty Ltd, Western Blue Dive Pty Ltd, Westerner Corporation Pty Ltd Activities have the potential to impact West Coast-based dive, tourism and charter operator's functions, interests or activities due to the location of activities and there has been recorded charter effort in the EMBA in the past 5 years.	
Titleholders and Operators			
Beagle No. 1	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Bounty Oil and Gas	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
BP Developments Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Carnarvon Energy	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Chevron Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Coastal Oil and Gas, contacted through Fox Resources	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Mobil Australia Resources Company	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes

Finder Energy (No 16)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
INPEX	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Jadestone	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
JERA Gorgon (covered under Chevon)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
JX Nippon O&G Exploration (Australia)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
KATO Energy / KATO Corowa / KATO NWS / KATO Amulet	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
KUFPEC	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Kyushu Electric Wheatstone	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
OMV Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
MidOcean Gorgon (Covered under Chevron)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes

Osaka Gas Gorgon (covered under Chevron)	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
PE Wheatstone	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Santos NA Energy Holdings / Santos Ltd / Santos WA Northwest / Santos Offshore / Santos WA Southwest / Santos (BOL) / Santos WA PVG	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Shell Australia	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Vermilion Oil & Gas	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d). of the Environment Regulations Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Western Gas	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
InCapture P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
SK Earthon Australia P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
CarbonCQ P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes

Energy Resources Ltd	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Pelsart Resources N/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Allasso Energy	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Skye Napoleon P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Tanami Energy	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
OPIC Australia P/L	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
3D Energi Ltd	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Pathfinder Energy	Titleholder or Operator	Woodside has applied its methodology for 'Titleholders and Operators' under regulation 25(1)(d) of the Environment Regulations. Titleholder or Operator's permit areas overlaps the EMBA.	Yes
Peak Industry Representative bodies			
Australian Energy Producers (AEP)	Represents the interests of oil and gas explorers and producers in Australia.	Woodside has applied its methodology for 'Peak Industry Representative bodies' under regulation 25(1)(d) of the Environment Regulations. AEP's responsibilities are identified as having an intersect with Woodside's planned activities in the EMBA.	Yes

Historical heritage groups or organisations			
Western Australian Museum (WAM)	Manages 200 shipwreck sites of the 1,500 known to be located off the Western Australian coast.	Woodside has applied its methodology for 'Historical cultural heritage groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There are known shipwrecks overlapping the EMBA which the Western Australian Museum may be responsible for.	Yes
Local government and elected Parliamentary representatives, community groups or organisations			
Broome Chamber of Commerce and Industry (CCI)	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Broome and surrounding areas.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Broome Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Carnarvon Chamber of Commerce and Industry (CCI)	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Carnarvon and surrounding areas.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Carnarvon Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Exmouth Chamber of Commerce and Industry (CCI)	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Exmouth and surrounding areas.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Exmouth Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Karratha & Districts Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the City of Karratha and surrounding areas.	Woodside has applied its methodology for 'Local government and elected Parliamentary representatives, community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Karratha and Districts Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Melville Cockburn Chamber of Commerce and Industry	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations.	Yes

	Melville/Cockburn and surrounding areas.	The Melville Cockburn Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	
Onslow Chamber of Commerce and Industry (CCI)	Independent not-for-profit organisation responsible for promoting the interests of its members in the business community in the town of Onslow and surrounding areas.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Onslow Chamber of Commerce and Industry's interests have the potential to be impacted by the proposed activities.	Yes
Exmouth Community Liaison Group (CLG)	The Exmouth CLG represents the interests of a range of local government, industry and community organisations in relation to oil and gas matters in the Exmouth region.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Base Marine, Bhagwan Marine, Cape Conservation Group Inc, Cape Range Riders, DBCA, Department of Defence, Department of Transport, Exmouth Bus Charter, Exmouth Chamber of Commerce and Industry, Exmouth District High School, Exmouth Escape Resort, Exmouth Freight and Logistics, Exmouth Game Fishing Club, Exmouth Tackle and Camping Supplies, Exmouth Visitors Centre, Exmouth Volunteer Marine Rescue, Fat Marine, Gascoyne Development Commission, Gun Marine Services, Ningaloo Centre, Ningaloo Lodge, Ningaloo Coast World Heritage Advisory Council, PHI Aviation, Offshore Unlimited, Shire of Exmouth, Santos, Terrafirma Offshore, WA Country Health Service. The Exmouth CLG's area of responsibility under its terms of reference overlaps the EMBA.	Yes
Karratha Community Liaison Group (CLG)	The Karratha CLG is the recognised community group that represents the interests of a range of local government, industry and community organisations in relation to oil and gas matters in the Pilbara region.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Karratha CLG's area of responsibility under its terms of reference does not overlap the EMBA. WA Police, Karratha Health Care, Development WA, Ngarluma Yindjibarndi Foundation Ltd (NYFL)*, Department of Education, Pilbara Ports Authority, Regional Development Australia, Pilbara Development Commission, Dampier Community Association, City of Karratha, Karratha & Districts Chamber of Commerce and Industry, Horizon Power, Murujuga Aboriginal Corporation (MAC)*. *NFYL and MAC were consulted directly as described below.	Yes

		Under regulation 25(1)(e), Woodside, at its discretion, chose to assess the CLG as a relevant person.	
City of Greater Geraldton	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Ardingly, Beachlands Beatty, Beresford, Bluff Point, Bootenal, Bringo. Burma Road, Cape Burney, Casuarina, Deepdale, Devils Creek, Drummond Cove, East Chapman, Ellendale, Eradu, Eradu South, Forrester Park, Georgina, Geraldton, Glenfield, Greenough, Indarra, Karloo, Kockatea, Kojarena, Mahomets Flats, Mendel, Meru, Minnenooka, Moonyoonooka, Moresby, Mullewa, Mt Hill, Mt Tarcoola, Narngulu, Northern Gully, Pindar, Rangeway, Rudds Gully, Sandsprings, South Greenough, Spalding, Strathalbyn, Sullivan, Sunset Beach, Tarcoola Beach, Tardun, Tenindewa, Tilbradden, Utakarra, Waggrakine, Walkaway, Wandina, Webberton, West End, Wicherina, Wicherina South, Wilroy, Wongoondy, Wonthella, Woorree.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Greater Geraldton's area of responsibility overlaps the EMBA.	Yes
City of Cockburn	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Atwell, Aubin Grove, Banjup, Beeliar, Bibra Lake, Cockburn Central, Coogee, Coolbellup, Hamilton Hill, Hammond Park, Henderson, Jandakot, Lake Coogee, Leeming, Munster, North Coogee, North Lake, South Lake, Spearwood, Success, Treeby, Wattleup, Yangebup.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Cockburn's area of responsibility overlaps the EMBA.	Yes

City of Karratha	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Baynton, Baynton West, Bulgarra, Cossack, Dampier, Gap Ridge, Karratha, Karratha Industrial Estate, Jingarri, Madigan, Millars Well, Nickol, Pegs Creek, Point Samson, Roebourne, Whim Creek and Wickham.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The City of Karratha's area of responsibility overlaps the EMBA.	Yes
Shire of Ashburton	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Onslow, Pannawonica, Paraburdoo and Tom Price.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Ashburton's area of responsibility overlaps the EMBA.	Yes
Shire of Broome	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Mile, Bilingurr, Broome, Cable Beach, Cape Leveque, Coconut Well, Djugun, Lombadina, Minyirr, Morell Park, Skuthorpe	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Broome's area of responsibility overlaps the EMBA.	Yes
Shire of Carnarvon	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Babbage Island, Brockman, Browns Range, Carnarvon, Coral Bay, East Carnarvon, Greys Plain, Ingaarda, Kingsford, Morgantown, North Plantations, South Carnarvon, South Plantations.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Carnarvon's area of responsibility overlaps the EMBA.	Yes
Shire of Exmouth	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Exmouth, Learmonth and North West Cape.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Exmouth's area of responsibility overlaps the EMBA.	Yes

Shire of Shark Bay	Local government governed by the Local Government Act 1995 representing the suburbs and localities of Billabong, Denham, Monkey Mia, Nanga, Overlander, Useless Loop	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay's area of responsibility overlaps the EMBA.	Yes
RAC Monkey Mia Dolphin Resort	Accommodation provider within the Shark Bay World Heritage Area.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified RAC Monkey Mia Dolphin Resort as a potentially relevant person. Woodside chose to contact RAC Monkey Mia Dolphin Resort at its discretion in line with Section 5.3.7.	No
Dirk Hartog Island	Tourism business operating accommodation and guided tours and providing four-wheel drive access to Dirk Hartog Island.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Dirk Hartog Island as a potentially relevant person. Woodside chose to contact Dirk Hartog Island at its discretion in line with Section 5.3.7.	No
Shark Bay Community Resource Centre	Not-for-profit, community owned and managed organisation which produces a monthly community newspaper.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Shark Bay Community Resource Centre as a potentially relevant person. Woodside chose to contact Shark Bay Community Resource Centre at its discretion in line with Section 5.3.7.	No
Shark Bay Aviation	Shark Bay-based business offering air services across the Gascoyne, Pilbara, Murchison and Kimberley regions	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Shark Bay Aviation as a potentially relevant person. Woodside chose to contact Shark Bay Aviation at its discretion in line with Section 5.3.7.	No

Shark Bay Coastal Tours	Shark Bay-based tour company specialising in four-wheel drive tours.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Shark Bay Coastal Tours as a potentially relevant person. Woodside chose to contact Shark Bay Coastal Tours at its discretion in line with Section 5.3.7.	No
Naturetime Tours	Shark Bay-based tour company offering four-wheel drive tours.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Naturetime Tours as a potentially relevant person. Woodside chose to contact Naturetime Tours at its discretion in line with Section 5.3.7.	No
Wula Gula Nyinda Eco Cultural Tours	Shark Bay-based tour company offering tours and Indigenous experiences.	Woodside has applied its methodology for 'Local government and community representative groups or organisations' under regulation 25(1)(d) of the Environment Regulations. The Shire of Shark Bay identified Wula Gula Nyinda Eco Cultural Tours as a potentially relevant person. Woodside chose to contact Wula Gula Nyinda Eco Cultural Tours at its discretion in line with Section 5.3.7.	No
Other non-government groups or organisations (NGOs) or individuals			
Australian Conservation Foundation (ACF)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine ACF's relevance for the proposed activity. Woodside has assessed that ACF does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4). Woodside chose to contact ACF at its discretion in line with Section 5.3.7.	No

Australian Marine Conservation Society (AMCS)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine AMCS' relevance for the proposed activity. Woodside has assessed that AMCS' does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4). Woodside chose to contact AMCS at its discretion in line with Section 5.3.7.	No
Conservation Council of Western Australia (CCWA)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine CCWA's relevance for the proposed activity. Woodside has assessed that CCWA does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4). Woodside chose to contact CCWA at its discretion in line with Section 5.3.7.	No
Greenpeace Australia Pacific (GAP)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine GAP's relevance for the proposed activity. Woodside has assessed that GAP does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4). Woodside chose to contact GAP at its discretion in line with Section 5.3.7.	No
350 Australia (350A)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine 350A's relevance for the proposed activity. Woodside has assessed that 350A does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4).	No

		Woodside chose to contact 350A at its discretion in line with Section 5.3.7.	
Australasian Centre for Corporate Responsibility (ACCR)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine ACCR's relevance for the proposed activity. Woodside has assessed that ACCR does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4). Woodside chose to contact ACCR at its discretion in line with Section 5.3.7.	No
Climate Council	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine Climate Council's relevance for the proposed activity. Woodside has assessed that Climate Council does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4). Woodside chose to contact Climate Council at its discretion in line with Section 5.3.7.	No
Doctors for the Environment Australia (DEA) and Doctors for the Environment WA (DEAWA)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine DEA's relevance for the proposed activity. Woodside has assessed that DEA does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4). Woodside chose to contact DEA at its discretion in line with Section 5.3.7.	No
Friends of Australian Rock Art. Inc (FARA)	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine FARA's relevance for the proposed activity. Woodside has assessed that FARA has provided previous feedback and/or has a publicly available statement (or purpose), website or social media material that	Yes

		demonstrates that it's functions, interests or activities may be relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4).	
Market Forces	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to Market Forces' relevance for the proposed activity. Woodside has assessed that Market Forces does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4). Woodside chose to contact Market Forces at its discretion in line with Section 5.3.7.	No
Environs Kimberley	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations or individuals' under regulation 25(1)(d) of the Environment Regulations to determine Environs Kimberley's relevance for the proposed activity. Woodside has assessed that Environs Kimberley does not have a publicly available statement (or purpose), website or social media material that demonstrates its functions, interests or activities are relevant to the potential risks and impacts associated with planned activities in accordance with the intended outcome of consultation (as set out in Section 5.3.4). Woodside chose to contact Environs Kimberley at its discretion in line with Section 5.3.7.	No
Telstra	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations to determine Telstra's relevance for the proposed activity. There are no known communication cables that intersect within the Operational Area.	No
Vocus	Non-government organisation	Woodside has applied its methodology for 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations to determine Vocus' relevance for the proposed activity. There are no known communication cables that intersect within the Operational Area.	No

Research institutes and local conservation groups or organisations			
Australian Institute of Marine Science (AIMS)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There may be research being undertaken by AIMS that intersects within the EMBA. Woodside chose to contact AIMS at its discretion in line with Section 5.3.7 of the EP.	No
Western Australian Marine Science Institution (WAMSI)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by the WAMSI that intersects within the EMBA. Woodside chose to contact WAMSI at its discretion in line with Section 5.3.7 of the EP.	No
Commonwealth Scientific and Industrial Research Organisation (CSIRO)	Research Institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by CSIRO that intersects within the EMBA. Woodside chose to contact CSIRO at its discretion in line with Section 5.3.7 of the EP.	No
Curtin University	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. There is no known research being undertaken by the Curtin University that intersects within the EMBA. Woodside chose to contact Curtin University at its discretion in line with Section 5.3.7 of the EP.	No
University of Western Australia (UWA)	Research institute	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations.	No

		There is no known research being undertaken by the UWA that intersects within the EMBA. Woodside chose to contact UWA at its discretion in line with Section 5.3.7 of the EP.	
Cape Conservation Group (CCG)	Local conservation group focused on protecting the terrestrial and marine environment of the North West Cape	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. CCG's conservation activities have the potential to intersect with the EMBA as the EMBA overlaps North West Cape.	Yes
Protect Ningaloo	Local conservation group focused on protecting the Exmouth Gulf and Ningaloo Reef and Cape Range	Woodside has applied its methodology for 'Research institutes and local conservation groups or organisations' under regulation 25(1)(d) of the Environment Regulations. Protect Ningaloo's conservation activities have the potential to intersect with the EMBA as the EMBA overlaps North West Cape and Ningaloo Reef.	Yes
Traditional Custodians and nominated representative corporations			
Buurabalayji Thalanyji Aboriginal Corporation (BTAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Thalanyji Native Title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, for which BTAC is the Registered Native Title Body Corporate. BTAC is also party to the Macedon ILUA which is coastally adjacent to the EMBA.	Yes
Gogolanyngor Aboriginal Corporation (GAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Jabirr Jabirr/Ngumbarl Native Title claim and Bindunbur Native Title claims do not overlap the EMBA. The claims are coastally adjacent to the EMBA, for which GAC is one of the Registered Native Title Body Corporates.	Yes
Karajarri Traditional Lands Association (Aboriginal Corporation)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Karajarri People (Area A) / Karajarri People (Area B) Native Title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, for which the	Yes

		Karajarri Traditional Lands Association (Aboriginal Corporation) is the Registered Native Title Body Corporate. The Karajarri Traditional Lands Association (Aboriginal Corporation) is also party to the Great Sandy Desert Project and Karajarri Traditional Lands Association KSCS Eighty Mile Beach ILUAs, which are coastally adjacent to the EMBA.	
Kariyarra Aboriginal Corporation (KAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Kariyarra Native Title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, for which KAC is the Registered Native Title Body Corporate. KAC is also party to the Kariyarra and State ILUA, which is coastally adjacent to the EMBA.	Yes
Malgana Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Malgana Part A Native Title claim, for which the Malgana Aboriginal Corporation is the Registered Native Title Body Corporate, overlaps the EMBA.	Yes
Murujuga Aboriginal Corporation (MAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. MAC was established to represent the members of competing Native Title claims over Murujuga, collectively known as the Ngarda Ngarli and comprising Mardudhunera, Ngarluma, Yaburara, Yindjibarndi and Wong-Goo-Tt-Oo people. The determination of the competing Native Title claims resulted in no Native Title being found over the lands subject to the BMIEA or below the low water mark. MAC also owns and co-manages the Murujuga National Park, is responsible for the Dampier Archipelago National Heritage Place and is progressing the World Heritage nomination of the Murujuga Cultural Landscape. Under Regulation 25 (1)(e), Woodside at its discretion chose to assess MAC as a relevant person.	Yes
Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.	Yes

		The Gnulli, Gnulli #2 and Gnulli #3 - Yinggarda, Baiyungu and Thalanyji People Native Title claim, which the Baiyungu, Thalanyji and Yinggarda people are party to, overlaps the EMBA. NTGAC and YAC are the Registered Native Title Body Corporates holding native title on behalf of the Baiyungu, Thalanyji and Yinggarda people. NTGAC is also party, with the WA State Government, to the Ningaloo Conservation Estate and Nganhurra Thanardi Garrbu Aboriginal Corporation Conservation Estate ILUAS, which overlap the EMBA. NTGAC is responsible for the joint management of the inner Ningaloo Marine Park (State Waters). NTGAC's nominated representative is the Yamatji Marlpa Aboriginal Corporation (YMAC) and NTGAC executive officer and contact officer pursuant to the *Corporations (Aboriginal and Torres Strait Islander) Act 2006* is employed by YMAC. Woodside has therefore consulted the NTGAC, via YMAC.	
Ngarluma Aboriginal Corporation (NAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Ngarluma People Native Title claim, for which NAC is the Registered Native Title Body Corporate, overlaps the EMBA. The Ngarluma/Yindjibarndi Native Title claim for which NAC and Yindjibarndi are the Registered Native Title Bodies Corporate is adjacent to the EMBA. NAC is also party to the Anketell Port, Infrastructure Corridor and Industrial Estates and RTIO Ngarluma Indigenous Land Use Agreement (Body Corporation Agreement) ILUAs, which are coastally adjacent to the EMBA.	Yes
Nimanburr Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Bindunbur Native Title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, for which GAC, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation are the Registered Native Title Body Corporates.	Yes
Nyangumarta Karajarri Aboriginal Corporation (NKAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations.	Yes

		The Nyangumarta-Karajarri Overlap Proceeding (Yawinya) Native Title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, for which the NKAC is the Registered Native Title Body Corporate. NKAC is also party to the NKAC KSCS Eight Mile Beach, Nyangumarta Karajarri and Anna Plans Station and Nyangumarta Karajarri and Mandora Station ILUAs, which are coastally adjacent to the EMBA.	
Nyangumarta Warrarn Aboriginal Corporation (NWAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Nyangumarta People (Part A) Native Title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, for which NWAC is the Registered Native Title Body Corporate. NWAC is also party to the Nyangumarta PBC KSCS, Nyangumarta Warrarn Aboriginal Corporation and Mandora Pastoral Lease and Nyangumarta Warrarn Aboriginal Corporation and Wallal Downs Pastoral Lease ILUAs, which are coastally adjacent to the EMBA.	Yes
Nyul Nyul PBC Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Bindunbur Native Title claim does not overlap the EMBA. The claim is coastally adjacent to the EMBA, for which the GAC, Nimanburr Aboriginal Corporation and Nyul Nyul PBC Aboriginal Corporation are the Registered Native Title Body Corporates.	Yes
Robe River Kuruma Aboriginal Corporation (RRKAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. RRKAC is party to the KM and YM Indigenous Land Use Agreement 2018, which overlaps the EMBA and the RTIO Kuruma Marthudunera People ILUA, which is coastally adjacent to the EMBA.	Yes
Wanparta Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Ngarla and Ngarla #2 (Determination Area A), Ngarla Overlap Proceeding and Ngarla People (Mount Goldsworthy Lease Proceeding) Native Title claims do	Yes

		not overlap the EMBA. The claims are coastally adjacent to the EMBA, for which Wanparta Aboriginal Corporation is the Registered Native Title Body Corporate. Wanparta Aboriginal Corporation is also party to the Ngarla Pastoral and Ngarla PBC KSCS ILUAs, which are adjacent to the EMBA.	
Whadjuk Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Wadjuk ILUA overlaps the EMBA.	Yes
Wirrawandi Aboriginal Corporation (WAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Yaburara & Mardudhunera People Native Title claim, for which WAC is the Registered Native Title Body Corporate, overlaps the EMBA. WAC is party to the Cape Preston Project Deed (YM Mardie ILUA) and KM and YM Indigenous Land Use Agreement 2018 ILUAs, which overlap the EMBA, and the Cape Preston West Export Facility ILUA, which is coastally adjacent to the EMBA.	Yes
Yawuru Native Title Holders Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Rubibi Community Native Title claim, for which Yawuru Native Title Holders Aboriginal Corporation is the Registered Native Title Body Corporate, does not overlap but is coastally adjacent to the EMBA The Yawuru Native Title Holders Aboriginal Corporation is also party to the Yawuru Native Eco Beach, Yawuru Nagulagun/Roebuck Bay Marine Park ILUA and Yawuru Prescribed Body Corporate - Broome ILUAs, which are coastally adjacent to the EMBA.	Yes
Yindjibarndi Aboriginal Corporation	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Ngarluma/Yindjibarndi People Native Title claim, for which NAC and the Yindjibarndi Aboriginal Corporation are the Registered Native Title Bodies Corporate, is adjacent to the EMBA.	Yes

Yinggarda Aboriginal Corporation (YAC)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d). The Gnulli #2 and Gnulli #3 - Yinggarda, Baiyungu and Thalanyji People Native Title claim for which YAC is the Registered Native Title Body Corporate, overlaps the EMBA. YAC is also party to the Quobba – Yinggarda Pastoral ILUA, which overlaps the EMBA. YAC's nominated representative is Gumala Aboriginal Corporation.	Yes
Native Title Representative Bodies			
Kimberley Land Council (KLC)	Native Title Representative Body	Woodside has applied its methodology for 'Native Title Representative Bodies' under regulation 25(1)(d) of the Environment Regulations. KLC is the Native Title Representative Body for the Kimberley region of Western Australia. As such, KLC is not a Prescribed or Registered Native Title Body Corporate but exists to assist Native Title claimants and holders. KLC's functions may be relevant to the proposed activity in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation.	Yes
Yamatji Marlpa Aboriginal Corporation (YMAC)	Native Title Representative Body	Woodside has applied its methodology for 'Native Title Representative Bodies' under regulation 25(1)(d) of the Environment Regulations. YMAC is the Native Title Representative Body for the Yamatji and Pilbara regions of Western Australia. As such, YMAC is not a Prescribed or Registered Native Title Body Corporate but exists to assist native title claimants and holders. YMAC is NTGAC's nominated representative. Woodside has therefore consulted NTGAC via YMAC. Woodside contacted YMAC to seek guidance with respect to the appropriate Traditional Custodian group(s) to engage with respect to the proposed activity where this was not clear. YMAC's functions may be relevant to the proposed activity in relation to its facilitation and coordination function as a Native Title Representative Body under applicable federal legislation.	Yes

Self-identified First Nations groups			
Ngarluma Yindjibarndi Foundation Ltd (NYFL)	Representative Aboriginal Corporation	Woodside has applied its methodology for 'Traditional Custodians and Nominated Representative Corporations' under regulation 25(1)(d) of the Environment Regulations. The Ngarluma and Yindjibarndi People, the NWS JVs and Woodside entered into an agreement on 22 December 1998 (Agreement). NYFL was subsequently incorporated under the terms of the Agreement to act as trustee for the trust established to benefit the Ngarluma and Yindjibarndi People and the Roebourne Aboriginal Community. Subsequent to that, the Ngarluma people settled their Native Title claim and established their nominated representative corporation, NAC; and the Yindjibarndi people settled their native title claim and established their nominated representative corporation, the Yindjibarndi Aboriginal Corporation (PBC). NAC and the Yindjibarndi Aboriginal Corporation are the appropriate representative bodies for consultation in relation to cultural interests. NYFL's functions may be relevant to the proposed activity in relation to its functions under the Agreement.	Yes
Other First Nations Groups			
Save Our Songlines (SOS) and/ or [Individual 1]	Representatives of Non-Government Organisation SOS and/ or [Individual 1]	Woodside has applied its methodology for 'Traditional Custodians and nominated representative corporations' and 'Other non-government groups or organisations' under regulation 25(1)(d) of the Environment Regulations to determine SOS and/ or [Individual 1] relevant for the proposed activity. SOS and/ or [Individual 1] has stated interests in the protection of Murujuga rock art. The EMBA for this activity is adjacent to the Murujuga cultural landscape.	Yes

3. CONSULTATION ACTIVITIES

3.1 Okha FPSO Facility Operations EP consultation activities

Woodside has been conducting extensive consultation with relevant persons and other parties for this EP since April 2025 when consultation commenced with interested and affected stakeholders as part of a planned, integrated and consistent approach to stakeholder engagement for Woodside's proposed opportunities.

A broad consultation process has been undertaken with relevant persons for the Okha FPSO Facility Operations EP. Consultation aims to be inclusive, transparent, voluntary, respectful and two-way. Consultation was undertaken by email, letter, phone call and/or meetings and through advertising.

3.2 Discharging Regulation 25 of the Environment Regulations

Woodside advertised the planned activities proposed for this EP in national, state and relevant local newspapers including (see Record of Consultation, reference 6.3) which had an estimated readership of 2.47m. Regional newspapers do not require subscription and are available directly to households. All communities within or adjacent to the EMBA had access to this information via this information.

No direct comments or feedback were received from the advertisements.

Newspaper	Coverage	Readership	Publication dates
The Australian	National	Weekly – 453,000	7 April 2025
The West Australian	Regional (WA)	Daily – 364,000	7 April 2025
Pilbara News	Local (WA)	Weekly – 17,611	9 April 2025
The Geraldton Guardian	Local (WA)	Weekly - 7,148	8 April 2025
Midwest Times	Local (WA)	Weekly – 50,534	9 April 2025
Broome Advertiser	Local (WA)	Weekly – 14,474	10 April 2025
Kimberley Echo	Local (WA)	Weekly – 480	10 April 2025
National Indigenous Times	Indigenous	Monthly – 1,484,340	26 March 2025
Koori Mail	Indigenous	Monthly – 80,000	9 April 2025

A Consultation Information Sheet was provided to relevant persons and persons Woodside chose to contact (see Section 5.3.7 in the EP), which included details such as an activity overview, maps, a summary of key risks and/or impacts and management measures (Record of Consultation, reference 6.1.1).

Since the commencement of the initial consultation period (April 2025), the stakeholder Consultation Information Sheet has been available on Woodside's website. The Woodside Consultation Information Sheets include a toll-free 1800 phone number and Woodside's feedback email address consultation@feedback.woodside.com

The Woodside Consultation Activities webpage (accessible on the Consultation Information Sheet via a QR code, banners at community events and via social media content and advertisements) includes Consultation Information Sheets for the EPs on which Woodside is currently consulting, including this EP. The website page also features a subscribe field for EP-focussed communications from Woodside.

Additional targeted information was provided to relevant marine users. This information included maps and additional information (GIS shape files) relevant to the specific category of persons. (Record of Consultation, references 6.1.3 - 6.1.6) The relevant persons had a 30-day period in which to provide feedback.

Where appropriate, Woodside conducted phone calls and meetings with relevant persons.

Where appropriate, targeted follow-up emails were sent to relevant persons who had not provided a response prior to the close of the target feedback period.

Woodside considered relevant person responses and assessed the merits and relevance of objections and claims about the potential adverse impact of the proposed activity set out in the EP, in accordance with the intended outcome of consultation (see Section 5.2 in the EP).

Consultation activities undertaken with relevant persons are summarised at Appendix F, Table 2.

Engagement undertaken with persons or organisations Woodside assessed as not relevant but chose to contact (see Section 5.3.4 in the EP) or self-identified and Woodside assessed as not relevant are summarised at Appendix F, Table 3.

From April 2025, Woodside commenced a geotargeted sponsored social media campaign delivered in three bursts across the consultation period. It covered various local government authorities within, or coastally adjacent to, the EMBA for the proposed activities. The campaign brought the proposed activity to the attention of persons who may be interested and advised persons or organisations on how they can find out about Woodside's proposed activities by visiting Woodside's website.

Platforms	Audience	Campaign Dates	Results
Meta (Facebook and Instagram)	Wyndham, Broome, Carnarvon, Denham, Derby, Exmouth, Geraldton, Kalbarri, Onslow, Roebourne, Karratha, Coral Bay, Rottnest Island 40km pin radius 18-65+ age range	24hr blast dates • 09/04/2025 • 29/04/2025 • 07/05/2025	Reach: 130,328 Impressions: 254,570 All clicks: 1,579 All *CTR%: 0.62% Link clicks: 825 Link CTR%: 0.32% **Click through rate*

Below is a summary of comments and reactions to the social media campaign. Please note comments and reactions are limited on Instagram.

Platform	Number of reactions	Number of comments	Comments relevant to EP
Meta - Facebook	83 👍 13 😡 2 🥳 1 😮 1 😊 0 shares	22 comments	0 comments
Meta - Instagram	26 👍	-	-

3.3 Proactive consultation

3.3.1 Community engagement

The Community Information Sessions or community events that Woodside has conducted or attended are outlined below and captured in more detail in (Record of Consultation, references 6.5.1 - 6.5.2).

Woodside published advertisements ahead of these sessions and events in relevant local newspapers and on social media to support attendance.

Starting March 2025	Location	Event (if applicable)
18 March	Dampier	Who's Who in the Hood
6 April	Dampier	Dampier Beachside Markets
4 May	Dampier	Dampier Beachside Markets
15, 16 May	Karratha	REAF Red Earth Arts Festival
15 June	Karratha	Dampier Beachside Markets
28 June	Exmouth	Ningaloo Sky Festival Markets

3.3.2 Community liaison group engagement

The Exmouth and Karratha Community Liaison Groups (CLGs) represent the interests of a range of local government, industry and community organisations in relation to oil and gas matters in the Exmouth and Karratha region. Woodside regularly meets with the two CLGs to discuss a range of issues including consultation of specific EPs. For these EPs, see 4.10.7 for consultation with Exmouth CLG and 4.10.8 for Karratha CLG.

3.3.3 Newsletters

In March 2024, Woodside launched its first EP-focussed newsletter as a new communication avenue to reach existing and potential stakeholders. Woodside is building on its existing consultation approach, providing additional resources to inform relevant persons about its EP consultation. The newsletter aims to provide periodic updates to relevant persons about EP consultation activities, case studies on effective consultation with relevant persons and other EP focussed updates such as upcoming events where Woodside personnel will be consulting with the local community. It is distributed in a variety of locations (see table below) as well as across digital platforms including on woodside.com, and social media platforms. People can also subscribe to receive it. (Record of Consultation, reference 6.6.2).

Woodside also publishes the Karratha Community Update newsletter which includes a QR code and encourages people to go to the Woodside Consultation Activities webpage to subscribe and find information about EPs (Record of Consultation, reference 6.6.1).

3.4 Traditional Custodian specific consultation

In addition to the approaches above including community information sessions, additional activities were undertaken with relevant Traditional Custodians, which were specifically designed to provide for effective engagement with Traditional Custodians and so that information was provided in a form that was readily accessible and appropriate (see Section 5.5.4 in the EP). Consultation undertaken specifically with Traditional Custodians for this EP includes direct engagement with nominated representative bodies via the contact listed on the Office of the Registrar of Indigenous Corporations (ORIC) website, requesting advice on how they would like to be engaged and asking whether other members and/or individuals should be consulted. This has resulted in:

- the EP's Summary Information Sheet, being provided to relevant Traditional Custodian groups (Record of Consultation, reference 6.1.2). The resource is developed and reviewed by subject matter experts with knowledge and experience in Indigenous affairs, in collaboration with technical experts to ensure content is appropriate to the intended recipients

- meetings with directors, Elders and any nominated representatives, at a time and location nominated by them
- exchange of written feedback and correspondence
- telephoning relevant persons to provide context, if requested and/or required
- invitations to and/or attendance at community monthly luncheons for Traditional. Custodians.

Ongoing efforts were made to engage and develop relationships with these bodies via a variety of means such as email, phone calls, alternative contacts, texts, social media and, in some cases, physical visits.

Consultation meetings with attendees decided by Traditional Custodian groups and supported by senior Woodside representatives, subject matter experts and First Nations advisers with skills and experience in community engagement. Meetings are developed through a two-way consultation process to ensure effective information sharing via:

- mutually agreed agenda avoiding time pressure
- encouraging Traditional Custodian attendees to control the pace of the meeting and pause at any time to ask questions, seek clarification or provide feedback
- visual aids such as posters, presentations, simplified technical videos and real-world pictures and footage
- emphasis on potential planned and unplanned risks and impacts of the activity
- ample opportunity for questions and feedback
- discussion about ongoing relationship development and opportunities
- distribution of hard-copy Consultation Information Sheets (Record of Consultation, reference 6.1.1) and Summary Consultation Information Sheets (Record of Consultation, reference 6.1.2)
- meeting all costs such as sitting fees, travel, legal support and executive support and other support required
- advertising in Indigenous publications such as the National Indigenous Times and Koori Mail (Record of Consultation, reference 6.5.1.7 and 6.5.1.8)

Newspaper	Coverage	Publication dates
Koori Mail	Indigenous	9 April 2025
National Indigenous Times	Indigenous	26 March 2025

Woodside also ran a geotargeted sponsored social media campaign (Record of Consultation, reference 6.4) to various communities that are coastally adjacent to the EMBA for the proposed activities.

Social media is a highly effective means to engage Indigenous audiences as outlined in Indigenous Digital Life: The Practice and Politics of Being Indigenous on Social Media (Bronwyn Carlson and Ryan Frazer, 2021).

The campaign brought the proposed activity to the attention of persons who may be interested and advised persons or organisations how they can learn more about Woodside's proposed activities by visiting Woodside's website. The advertisements linked to Woodside's website, which details the intent of consultation with relevant persons under the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth).

Woodside uses a diverse range of techniques to reach relevant persons and build awareness of the proposed activity and how it may affect their functions, activities or interests, and to understand how to provide feedback. The combination of Prescribed Bodies Corporate (PBC) engagement meetings,

traditional print media, social media and face-to face community interaction provides a wide-ranging opportunity to consult.

4. TABLE 2: CONSULTATION REPORT WITH RELEVANT PERSONS OR ORGANISATIONS

The black numbering **(N)** in the 'Summary of information provided and record of consultation for this EP' in Table 2 denotes an item raised by a stakeholder. The green numbering **(N)** in this section denotes Woodside's response to that issue.

4.1 Commonwealth and WA State Government departments or agencies – marine

4.1.1 Australian Border Force (ABF)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Australian Border Force (ABF) advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.
Summary Report – Consultation Complete			

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with ABF for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given ABF sufficient information to allow ABF to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to ABF on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed ABF a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to ABF advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed ABF 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed ABF a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with ABF is appropriate and adapted to the nature of interests of ABF:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding ABF of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as ABF did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.
- The measures and controls described in this EP address the potential impact from the proposed activity on ABF's functions, interests or activities.

4.1.2 Australian Communications and Media Authority (ACMA)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed ACMA advising of the proposed activity (Record of Consultation, reference 6.1.9), provided a Consultation Information Sheet, a map of subsea cables and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- On 9 April 2025, ACMA thanked Woodside for the opportunity to comment, noted role of ACMA (SI Report A, reference 1.1) and:
  - **(1)** Confirmed Operational Area in consultation materials was not in existing protection zones.
  - **(2)** Noted activities were in the vicinity of Telstra and Vocus cables and encouraged Woodside to contact owners to discuss plans.
  - **(3)** Recommended Woodside contact AHO for help identifying cables that could be impacted by activities.
  - **(4)** Said it did not require further consultation but was available if any further information was needed from ACMA.
- On 10 April 2025, Woodside thanked ACMA for its feedback (SI Report A, reference 1.2) and:
  - (1) Noted AFMA's confirmation that the Operational Area was not in an existing protection zone.
  - (2) Responded that a review of submarine cable maps, undertaken before consultation, showed there were no submarine cables of concern, so no additional cable owners were consulted.
  - (3) Confirmed it would contact AHO if any additional cable identification was needed.
  - (4) Affirmed ACMA's point that it did not require further consultation and that Woodside would reach out if more information was needed from ACMA.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Noted Okha Operational Area is clear of existing protection zones.	**(1)** Woodside recognises from its GIS submarine cable mapping that there is no cable intersection and appreciates ACMA's confirmation that the Operational Area does not intersect with existing protection zones.	**(1)** Woodside noted ACMA's guidance that the Operational Area is not in any existing protection zones.	**(1)** Not required.
(2)	**(2)**	**(2)**	**(2)**

Planned activities are in the vicinity of submarine cables owned by two groups.	Woodside understands from its review of the submarine cable maps that there are not cables where activities will take place in the Operational Area. While Woodside reviewed ACMA's point, based on its consultation methodology, Woodside determined cable owners did not need to be contacted. \	Woodside confirmed that map was reviewed prior to consultation and given there were no cable of concern in the vicinity of the Operational Area, Telstra and Vocus were not contacted.	Not required.
(3) Recommended AHO as source for cable identification.	**(3)** Woodside understands AHO is a source for cable identification when needed and also consults with AHO on EPs as a standard practice.	**(3)** Woodside confirmed it would contact AHO if further assistance with cable identification was needed.	**(3)** Not required.
(4) Confirmed no further consultation was needed.	**(4)** Woodside accepts that ACMA does not require additional consultation.	**(4)** Woodside confirmed that ACMA does not require further consultation on the EP.	**(4)** Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.
Summary Report – Consultation Complete			
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with ACMA for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically: **Sufficient Information** Woodside has given ACMA sufficient information to allow ACMA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:			

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to ACMA on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 9 April 2025, ACMA shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable ACMA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- Woodside responded to ACMA's feedback (email of 10 April 2025).

Reasonable Period

Woodside allowed ACMA a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to ACMA advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed ACMA 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed ACMA a reasonable period for consultation in preparation of the EP as evidenced by ACMA's response on 9 April 2025.

Reasonable Opportunity

Woodside allowed ACMA a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to ACMA as evidenced by its response on 9 April 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- ACMA provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from ACMA.
  - Made no changes or inclusions to the EP as a result of consultation with ACMA because appropriate measures are already included in the EP.

- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.1.3 Australian Fisheries Management Authority (AFMA)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed AFMA advising of the proposed activity (Record of Consultation, reference 6.1.12), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community*'.
- On 7 April 2025, AFMA thanked Woodside for the email (SI Report A, reference 4.1) and:
  - **(1)** Advised it had no further comments at this time.
  - **(2)** Requested activity notifications.
- On 7 April 2025, Woodside thanked AFMA for its response (SI Report A, reference 4.2) and:
  - (1) Acknowledged AFMA did not have comments.
  - (2) Confirmed AFMA would receive notifications when vessels are undertaking activities within the Operational Area (but outside the Petroleum Safety Zone) for more than three weeks at a time.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) AFMA confirmed it had no feedback.	**(1)** Woodside understands that AFMA does not have feedback for the EP.	**(1)** Woodside acknowledged that AFMA did not have any feedback on the EP at this time.	**(1)** Not required.
(2) Requested activity notifications.	**(2)** Woodside reviewed that AFMA's request for notifications and given the nature of ongoing operations associated with the EP, notifications are provided when vessels will be undertaking activities for more than three weeks at a time.	**(2)** Woodside will provide notifications a when vessels are undertaking activities within the Operational Area (but outside the Petroleum Safety Zone) for more than three weeks at a time.	**(2)** Woodside will notify AFMA as referenced in PS 1.7 of EP and Section 7.9, table 7-7 of this EP.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback	Woodside has assessed the potential for interaction with Commonwealth-managed commercial fisheries in

	the EP relates, as required under Regulation 24.	may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Section 4.10.1 and Section 6.6.1 of this EP. No additional controls or measures are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with AFMA for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given AFMA sufficient information to allow AFMA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to AFMA on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 7 April 2025, AFMA shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable AFMA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- Woodside responded to AFMA in response to AFMA's feedback (email of 7 April 2025).

Reasonable Period

Woodside allowed AFMA a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to AFMA advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed AFMA 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed AFMA a reasonable period for consultation in preparation of the EP as evidenced by AFMA's response on 7 April 2025.

Reasonable Opportunity

Woodside allowed AFMA a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to AFMA as evidenced by its response on 7 April 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- AFMA provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from AFMA.
  - Made no changes or inclusions to the EP as a result of consultation with AFMA because appropriate measures are already included in the EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.1.4 Australian Hydrographic Office (AHO)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed AHO advising of the proposed activity, provided a Consultation Information Sheet, GIS shape files, vessel density map (Record of Consultation, reference 6.1.4) and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*. (Record of Consultation, reference 6.1.10)
- On 7 April 2025, AHO sent an automated response to acknowledge information had been received and supplied data would help update Navigational Charting Products. (SI Report A, reference 2.1).
- On 8 April 2025, Woodside thanked AHO for the acknowledgement and noted provided data would support updates of charting products. (SI Report A, reference 2.2)
- On 9 April 2025, AHO thanked Woodside for opportunity to comment (SI Report A, reference 2.3) and confirmed:
  - **(1)** Had no concerns with proposed activities.
  - **(2)** Requested updates only when activity is due to begin.
  - **(2)** Referenced a AHO Fact Sheet on notifications for review.
- On 10 April 2025, Woodside thanked AHO for its response (SI Report A, reference 2.4) and:

– **(1)** Acknowledged that AHO had no concerns with proposed activities.
– **(2)** Confirmed that AHO will be notified at least four weeks prior to activity start when vessels will be in Operational Area (but outside the Petroleum Safety Zone (PSZ)) for more than three weeks at a time,
– **(2)** Referenced the fact sheet link about AHO notifications.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) No concerns with proposed activities.	**(1)** Woodside reviewed AHO's acknowledgement that it had no concerns.	**(1)** Woodside noted that AHO had no concerns with the proposed activities.	**(1)** Not required.
(2) Requested start of activity notifications.	**(2)** Woodside understands AHO request for activity notifications and recognised this is in line with standard practices for AH0 for activity start-up and as also requested by AMSA. Woodside also recognises given the nature of ongoing operations associated with the EP, notifications are provided when vessels will be undertaking activities for more than three weeks at a time.	**(2)** Woodside confirmed with AHO that it would receive notifications when vessels will be undertaking activities in the Operational Area (but outside the PSZ) for more than three weeks.	**(2)** Woodside will notify AHO as referenced in PS 1.5 and in Section 7.9 Table 7-7 of this EP.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with AHO for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given AHO sufficient information to allow AHO to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to AHO on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 9 April 2025, AHO shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable AHO to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- Woodside responded to AHO in response to AHO's feedback (email of 10 April 2025).

Reasonable Period

Woodside allowed AHO a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to AHO advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed AHO 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed AHO a reasonable period for consultation in preparation of the EP as evidenced by AHO's response on 9 April 2025.

Reasonable Opportunity

Woodside allowed AHO a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to AHO as evidenced by its response on 9 April 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- AHO provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from AHO.
  - Aside from including AHO notifications in the EP, made no changes or inclusions to the EP as a result of consultation with AHO because appropriate measures are already included in the EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.1.5 Australian Maritime Safety Authority (AMSA) – Marine Safety

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed AMSA advising of the proposed activity (Record of Consultation, reference 6.1.11), provided a Consultation Information Sheet, GIS shape files, vessel density map (Record of Consultation, reference 6.1.4) and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community*'.
- On 15 April, AMSA thanked Woodside for the information (SI Report A, reference 3.1) and:
  - **(1)** Provided a vessel traffic plot of the Operational Area which showed commercial vessel traffic in the charted fairway to the west of east of the Okha FPSO Facility Operational Area and noted presence of merchant ships in the area.
  - **(2)** Confirmed the EMBA was very large and included charted shipping fairways and coast of western Australia and noted activities direct or indirect impact on the environment.
  - **(3)** Noted Woodside would have vessels notify AMSA's Response Centre (ARC) 24-48 hours before operations commence and that is needed to be advised when operations start and end.
  - **(4)** Confirmed Woodside would notify AHO no less than four working weeks before operations commence.
  - **(5)** Reminded about vessels obligation to comply with International Rules for Preventing Collisions at Sea (COLREGs) in particular appropriate use of lights and shapes and noted Woodside should implement anti-collision measures, which include but are not limited to:
    - Additional warnings and/or lights.
    - Offshore Guard Vessels to monitor traffic.
    - Installation of Automatic Identification System (AIS) units.
  - **(6)** Provided direction on how to access shipping data and customised information via AMSA's spatial data gateway. **(6)** Not required. Woodside previously confirmed.
- On 29 April 2025, Woodside thanked AMSA for the review of the consultation information (SI Report A, reference 3.2) and:
  - **(3)** Sought clarification on the notification protocols to ensure AMSA was satisfied with the timing tied to when vessel activities are undertaken for more than three weeks at a time in the Operational Area (but outside the Petroleum Safety Zone).

- (4) Reaffirmed AHO notifications with the timing tied to when vessel activities are undertaken for more than three weeks at a time in the Operational Area (but outside the Petroleum Safety Zone).
- (1) Acknowledged receipt of the vessel traffic plot and information about commercial vessel traffic.
- (2) Noted AMSA's points about navigational safety in the highly unlikely event of a hydrocarbon spill and referenced that emergency response activities in EMBA are covered by the EP's Oil Pollution Emergency Plan.
- (3) Sought AMSA's confirmation that the suggested notification protocols were acceptable to AMSA, (2) along with the planned emergency response activities, noting that the approach is consistent with past AMSA advice received on recent Operations EPs.
- (5) Confirmed compliance with COLREGs is mandated aboard Woodside chartered vessels, in addition to compliance with the *Navigational Act 2012* which ensures navigational status is set correctly in vessel's AIS.
- (5) Noted Woodside does not plan to implement further anti-collision measures at this time, but mitigation measures are evaluated continuously and activated as required.

- **(3)** On 6 May, AMSA thanked Woodside for the email to clarify proposed notification requirements. (SI Report A, reference 3.3)
  - **(3)** Noted they are acceptable and aligned with earlier guidance, confirmed 24-48 hour notification prior to start of the vessel activity of more than three week, including when operations start and finish; name, callsign and MMSI of each vessel; precise area of operation and requested safety clearance radius.
  - **(2)** Acknowledged and accepted emergency response actions will follow the Oil Pollution Emergency Plan detailed in the EP.
  - **(5)** Reiterated that vessels should fully comply with COLREGs and Navigational Act 2012.
  - **(3, 4)** Requested AMSA and AHO receive notice should any updates be made to notification timing or activity details change.
- (3) On 14 May, Woodside thanked AMSA for its response and noted some ongoing questions about notifications so asked for a meeting. (SI Report A, reference 3.4)
- **(3)** On 15 May, AMSA thanked Woodside for the email and said it would send a shortlist of proposed meeting times. (SI Report A, reference 3.5)
- (3) On 15 May 2025 Woodside reached out to AMSA about potential for meeting to discuss notifications to support all EPs. (SI Report A, references 3.6)
- On 29 May 2025, Woodside wrote to AMSA to confirm that the activity will use Uncrewed Surface Vessels to support the IMMR activity. (SI Report A, reference 3.7)
- (3) On 10 June 2025, Woodside called AMSA's Connect Call Centre and emailed the Nav Safety team to progress a meeting to review notifications. (SI Report A, references 3.8-3.9).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Provided background on heavy commercial vessel traffic near the Operational Area.	**(1)** Woodside vessel density map indicated heavy commercial traffic near the Operational Area.	**(1)** Woodside acknowledged AMSA's provided vessel traffic plot and information about vessel traffic.	**(1)** Not required.
(2)	**(2)**	**(2)**	**(2)**

Noted size of EMBA and its inclusion of charted shipping fairways and coast of WA and potential impacts on environment	Woodside understands AMSA's points about vessel activity, navigational safety and potential impacts within EMBA.	Woodside noted AMSA's points about vessel activity and navigational safety within EMBA and confirmed in the highly unlikely event of a hydrocarbon spill, there would be emergency response activities.	Refer to Oil Spill Preparedness and Response Mitigation Assessment Appendix G of EP and Oil Pollution First Strike Plan Appendix H in this EP.
(3) Requested notifications 24-48 prior to commencement of activities.	**(3)** Woodside will notify ARC as requested by AMSA Nav Safety team.	**(3)** Woodside confirmed vessels would notify the ARC 24-48 hours before commencement of activities where vessels will be in the Operational Area (but outside the Petroleum Safety Zone) for more than three weeks.	**(3)** Woodside vessels will notify AMSA's Response Centre / ARC as referenced as PS 1.6 and Section 7.9 Table 7-7 of the EP.
(4) Requested AHO receive notifications at least four weeks before operations commence.	**(4)** Woodside will notify AHO as requested by AMSA Nav Safety team to support the generation of Notice to Mariners.	**(4)** Woodside will provide notifications to AHO at least four weeks before activities where vessels will be in the Operational Area (but outside the Petroleum Safety Zone) for more than three weeks.	**(4)** Woodside will notify AHO as referenced as PS 1.5 of the EP and Section 7.9 Table 7-7 of the EP.
(5) Requested vessel compliance with COLREGs and anti-collision measures.	**(5)** Woodside has mandated COLGREGs compliance aboard any Woodside chartered vessel and compliance with the *Navigational Act 2012.* Woodside does not plan to implement further anti-collision measures at this time.	**(5)** Woodside confirmed its chartered vessels are required to comply with COLREGs and *Navigational Act 2012.* While Woodside won't implement further anti-collision measures at this time, these are evaluated continuously and activated as required.	**(5)** The EP contains a number of controls that address AMSA's feedback on lighting and compliance with the international rule for preventing collisions at sea (see Section 6.6.1 of the EP).
(6) Provided direction on how to access shipping data and customised information.	**(6)** Woodside acknowledges shipping data is available from AMSA's spatial gateway.	**(6)** Woodside has previously confirmed availability of shipping data from AMSA's spatial gateway.	**(6)** Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing	No additional controls or measures are required.

	the EP relates, as required under Regulation 24.	consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with AMSA – Marine Safety for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given AMSA – Marine Safety sufficient information to allow AMSA – Marine Safety to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to AMSA – Marine Safety on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 15 April 2025, AMSA – Marine Safety shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable AMSA – Marine Safety to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- In addition to the information in the Consultation Information Sheet, Woodside provided additional information to AMSA – Marine Safety in response to AMSA – Marine Safety's feedback (email of (29 April 2025).

Reasonable Period

Woodside allowed AMSA – Marine Safety a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to AMSA – Marine Safety advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed AMSA – Marine Safety 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed AMSA – Marine Safety a reasonable period for consultation in preparation of the EP as evidenced by AMSA – Marine Safety's response on 15 April 2025.

Reasonable Opportunity

Woodside allowed AMSA – Marine Safety a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to AMSA – Marine Safety as evidenced by its response on 15 April 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- AMSA – Marine Safety provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from AMSA – Marine Safety.
  - Aside from adding notifications to the EP, made no changes or inclusions to the EP as a result of consultation with AMSA – Marine Safety because appropriate measures are already included in the EP.

Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.1.6 Australian Maritime Safety Authority (AMSA) – Marine Pollution

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed AMSA - Marine Pollution advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community*'.
- On 30 April 2025, in the absence of feedback, Woodside sent a reminder email. (Record of Consultation, reference 6.2.1)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with AMSA – Marine Pollution for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given AMSA - Marine Pollution sufficient information to allow AMSA - Marine Pollution to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to AMSA - Marine Pollution on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed AMSA - Marine Pollution a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to AMSA - Marine Pollution t advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed AMSA - Marine Pollution 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed AMSA - Marine Pollution ta reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with AMSA - Marine Pollution t is appropriate and adapted to the nature of interests of AMSA - Marine Pollution t:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding AMSA - Marine Pollution t of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as AMSA - Marine Pollution t did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.
- The measures and controls described in this EP address the potential impact from the proposed activity on AMSA - Marine Pollution t's functions, interests or activities.

4.1.7 Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed DAFF advising of the proposed activity (Record of Consultation, reference 6.1.13), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DAFF - Fisheries for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DAFF - Fisheries sufficient information to allow DAFF - Fisheries to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DAFF - Fisheries on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed DAFF - Fisheries a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DAFF - Fisheries advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DAFF - Fisheries 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed DAFF - Fisheries a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with DAFF - Fisheries is appropriate and adapted to the nature of interests of DAFF - Fisheries:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding DAFF - Fisheries of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as DAFF - Fisheries did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on DAFF - Fisheries' functions, interests or activities.

4.1.8 Department of Defence (DoD)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed DoD advising of the proposed activity (Record of Consultation, reference 6.1.8), provided a Consultation Information Sheet, defence area map (Record of Consultation, reference 6.1.3) and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Woodside will provide notifications to DoD as set out in Section 7.9, Table 7-7 of this EP. No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DoD for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DoD sufficient information to allow DoD to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DoD on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed DoD a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DoD advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DoD 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed DoD a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with DoD is appropriate and adapted to the nature of interests of DoD:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding DoD of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as DoD did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on DoD's functions, interests or activities.

4.1.9 Department of Planning, Lands and Heritage (DPLH)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed DPLH advising of the proposed activity (Record of Consultation, reference 6.1.21), provided a Consultation Information Sheet, details of WA shipwrecks (Record of Consultation, reference 6.1.5) and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DPLH for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DPLH sufficient information to allow DPLH to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DPLH on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed DPLH a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DPLH advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DPLH 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed DPLH a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with DPLH is appropriate and adapted to the nature of interests of DPLH:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding DPLH of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as DPLH did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on DPLH's functions, interests or activities.

4.1.10 Department of Primary Industries and Regional Development (DPIRD)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed DPIRD advising of the proposed activity (Record of Consultation, reference 6.1.16), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- On 16 May 2025, DPIRD thanked Woodside for the email (SI Report A, reference 5.1) and:
  - **(1)** Noted DPIRD considers itself a relevant person for the EP's proposed activities. **(1)** Not required. Woodside identifies DPIRD as a relevant person in the Relevancy Assessment (App F, reference 2.2).
  - **(2)** Provided guidance that commercial fishing interests were in the area of proposed activities, recommended that consideration be given to commercial fisheries that may be impacted by the activities as well as recreational and charter fishing resources.
  - **(2)** Shared links and appropriate DPIRD contact details for the latest catch and effort data and recreational and charter fishing.
  - **(3)** Recommended that consultation be undertaken with WA peak fishing sector bodies and Traditional Owners to mitigate and minimise impacts on areas activity fished, including specific start and end dates of activities proposed to minimise disruption to fishing activities.
  - **(3)** Provided contact information for WAFIC, Recfishwest, ACWA and Marine Tourism WA.
  - **(3)** Provided contact details for DPIRD's licencing department which could assist with consultation and confirm contact information.

  - **(3)** Recommended consultation with DBCA.
  - **(4)** Requested that in event of oil spill or other pollutant discharge, that WA Department of Transport (DoT) is notified as well as DPIRD within 24 hours.
  - **(5)** Requested that baseline marine data be collected for the Oil Spill Contingency Plan to compare post-spill monitoring and be available upon request.
  - **(6)** Noted spawning ground and nursery areas for key fish species are vulnerable to impacts of oil spills and requested specific strategies in place to mitigate these risks.
  - **(7)** Reviewed importance of management plans to include considerations to reduce risk of pest and aquatic diseases, advocating for best practice biofouling management. Requested that:
    - **(7)** Any suspected or confirmed presence should be reported within 24 hours to Aquatic Biosecurity and Fish Watch teams and included links to online documents which covered organism which would trigger a report.
    - **(7)** Vessel operators associated with the project would receive this information.
  - **(8)** Covered that threatened and/or migratory species including those associated with the Matters of National Environmental Significance (MNES) should be considered in development of the EP.
  - **(8)** Directed Woodside to the Department of Climate Change, Energy, the Environment and Water's Protected Matters Search Tool which assists in identifying species relevant the area of the proposed activities.
  - **(9)** Provided expectation that all potential impacts to fisheries, fish resources and marine environment are covered in the final EP with defined strategies to mitigate or minimise impacts and that DPIRD's Environment Group is available to answer any questions.
  - **(10)** Confirmed that it reserves the right to request further consultation and resolution should any significant and relevant change affect fisheries prior to completion of activities.
  - **(11)** Asked that a fisheries summary be developed for future consultation requests that includes:
    - Environment impact assessment including fish, fish resources and fisheries
    - Spatial map of affected fisheries overlapping with the Operational Area including fish grounds, recruitment and nursey areas.
    - Details of avoidance and mitigation measures to reduce impacts
    - Cumulative considerations from other anthropogenic pressures in area
    - Record of consultation with fishery stakeholders to date including summary of feedback and any changes made as a result.
- On 4 June 2025, Woodside thanked DPIRD for its feedback and noted it would like to set up a meeting to discuss the "Future Consultation Requests" from the 16 May email. It provided DPIRD with a couple potential dates for consideration or asked to come back with availability. Ahead of the meeting, Woodside responded to other points covered in DPIRD's email. (SI Report A, reference 5.2) which included:
  - **(11)** Suggested Woodside and DPIRD schedule a meeting to discuss DPIRD's request for a fisheries summary to support future EP consultation.
  - Reviewed the history and ongoing operations of the Okha FPSO Facility to confirm this EP supports an existing activity,
  - **(2)** Noted that Woodside completes a Relevancy Assessment to identify all interested persons of the activity which includes but is not limited to a spatial analysis of fishing interests within the Operational Area and broader EMBA.
  - **(2)** Confirmed that Woodside has assessed the potential for interaction with each fishery by reviewing AFMA, ABARES and DPIRD Fishcube data within the Operational Area and EMBA.

- **(3)** Confirmed that WAFIC, Recfishwest ACWA and Marine Tourism WA were contacted as part of consultation for the EP and that information included planned timing and duration of activities and spatial extent of activities and any exclusion zones.
- **(3)** Provided background on how Woodside works with WAFIC to consult with individual state fishery license holders who are in the Operational Area. Fisheries in EMBA are consulted only in the event of an unplanned emergency event.
- **(3)** Noted that Woodside updates fishing license holder contact details usually each calendar year using information from DPIRD's licensing division.
- **(3)** Confirmed consultation with 23 Traditional Owner groups and DBCA to prepare the EP.
- **(4)** Confirmed that Woodside's Oil Pollution First Strike Plan (FSP) commits to notifying the DoT within 2 hours of a marine pollution incident and DPIRD within 24 hours to provided email which is included in the notification section of the FSP. In addition, Woodside commits to identifying and notifying other relevant persons and organisations which may include but not be limited to commercial fishers or tour operators that may be affected by a spill event.
- **(6)** Noted that Woodside was part of the Joint Industry Operations and Scientific Monitoring Framework (APPEA, 2021) and the framework guided the situational awareness and response in addition to a suite of comprehensive science-based monitoring programs to evaluate environmental damage. One of these programs is dedicated to impacts on fisheries. This impact assessment has two objectives – to assess any physiological impacts to important fish and shellfish species and to assess targeted fish and shellfish species for hydrocarbon contamination.
- **(5)** Confirmed that Woodside has a bridging implementation plan that is current being assessed by NOPSEMA as part of the North Rankin Complex EP submission, available on NOPSEMA's website at Woodside Operational and Scientific Monitoring Bridging Implementation Plan. Section 4 details the process for assessment of baseline data and Woodside would work with key stakeholders to identify priority monitoring receptors.
- **(5)** Noted that a BACI framework would be used where baseline data was available or can be collected rapidly and may be used longer term to track recovery of receptors and restoration. Appendix C of the plan included a list of baseline studies available to Woodside.
- (**7**) Confirmed that Woodside worked with contractors to ensure compliance with DPIRD requirements and reporting guidance, including:
  - **(7)** Marine pests or disease will be reported within 24 hours to DPIRD.
  - **(7)** All vessels required to comply with the *Australian Biosecurity Act 2015.*
  - **(7)** Vessels will be assessed and managed to prevent the introduction of invasive marine species (IMS) as aligned to Woodside's IMS Management Plan.
- **(8)** Noted Woodside had considered threatened and/or migratory species including those associated with the Matters of National Environmental Significance in the EP and that Woodside used the PMST tool to develop all EPs and determine EPBC species where interaction could take place during the activities.
- **(9)** Confirmed that potential impacts to fisheries, fish resources and marine environment were reviewed and in the EP with plans to mitigate or minimise the impacts to ALARP.
- **(10)** Acknowledged that DPIRD reserved the right to request further consultation and resolution should there be significant change to activities.

- **(11)** On 10 June 2025, Woodside called DPIRD and left a voicemail to follow-up on the request to meet provided in the 4 June 2025 email and asked for a return call or email to provide some availability so a meeting could be coordinated to discuss a fisheries summary as part of DPIRD's request for future consultation. (SI Report A, reference 5.3)
- **(11)** On 16 June, DPIRD called Woodside to confirm an online meeting date for 18 June 2025 and time, and both exchanged emails to confirm the upcoming discussion to support future EP consultation tied to a Fisheries Summary. (SI Report A, references 5.4 – 5.6)
- **(11)** On 18 June, Woodside and DPIRD had an online meeting via Teams to discuss DPIRD's recommendation about a fisheries summary, learn more about Woodside operations and DPIRD team's remit and focus. (SI Report A, reference 5.7)

- **(11)** On 19 June, Woodside thanked DPIRD for the opportunity to meet and learn more about its team's priorities and work across the fish lifecycle (nursery, recruitment, resources) and the opportunity for early stage engagement when non-operational activities are being considered such as ones near coastal areas and offshore shoal. Woodside shared it was regrouping internally and updating others on team about the discussion and looked forward to staying in touch with DPIRD and receiving additional feedback. (SI Report A, reference 5.8)
- **(11)** On 20 June, DPIRD thanked Woodside and noted it was good to meet the Woodside team. It said it was great to hear Woodside would share learnings from meeting with broader team and to get in touch with any questions. (SI Report A, reference 5.9)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) DPIRD considers itself a relevant person.	**(1)** Woodside has assessed DPIRD as relevant prior to the start of consultation.	**(1)** Woodside had identified DPIRD as a relevant person during the Relevancy Assessment process.	**(1)** DPIRD is included in the Relevancy Assessment as a relevant person found in Appendix F, Table 1 (reference 2.2).
(2) Commercial fishing interests and recreational and charter fishing may be affected by activities.	**(2)** Woodside completes a relevancy assessment to identify fishers and recreational marine users which includes a spatial analysis of fishing interests and reviews AFMA, ABARES and DPIRD Fishcube data within the Operational Area and EMBA.	**(2)** Woodside confirmed that it had reviewed AFMA, ABARES and DPIRD Fishcube data to assess potential for interaction with fisheries and completed a relevancy assessment to identify commercial fisheries and recreational marine users where there is potential for interaction.	**(2)** Woodside has assessed the potential for interaction with State managed commercial fisheries in Section 4.10.1 and 6.6.1 of the EP. Relevancy Assessment including fisheries and recreational marine users and recreational marine rec bodies found in Appendix F, Table 1 (reference 2.2).
(3) Recommended consultation with WA peak fishing sector bodies, Traditional Owners and DBCA.	**(3)** Woodside has consulted with peak fishing bodies, recreational marine users and peak representative bodies, Traditional Owners and DBCA.	**(3)** Woodside confirmed it had consulted with peak fishing bodies, including WAFIC and ACWA, recreational marine users and peak representative bodies, including Recfishwest and Marine Tourism WA, Traditional Owners and DBCA.	**(3)** Consultation summaries are provided in Section 4 Table 2 of Appendix F of the EP.
(4) Requested notifications in the event of oil spill or other pollutant discharge.	**(4)** Woodside's Oil Pollution First Strike Plan (FSP) contains commitments to notify the Department of Transportation (DoT)	**(4)** Woodside confirmed the FSP contained guidance to notify the DoT within two hours of a spill and DPIRD within 24	**(4)** Refer to Oil Pollution First Strike Pan in Appendix H.

	and DPIRD, along with other relevant organisations, in the event of a marine pollution incident.	hours. It also commits to identifying and notifying additional relevant persons and organisation that may be affected by a spill event.	
(5) Requested that baseline marine data be collected for the Oil Spill Contingency Plan.	**(5)** Woodside has a bridging implementation plan under review with NOPSEMA with Section 4 detailing assessment of baseline data. It also has a BACI framework to be used where baseline data is available. Appendix C of the plan includes available baseline studies.	**(5)** Woodside confirmed it has a Woodside Operational and Scientific Monitoring Bridging Implementation Plan under review with NOPSEMA which details assessment of baseline data in Section 4. It also noted a BACI framework to be used where baseline data is available and that the plan's Appendix C includes list of available baseline studies.	**(5)** Refer to Oil Spill Preparedness and Response Mitigation Assessment in Appendix G of the EP.
(6) Noted spawning ground and nursey areas for key fish species are vulnerable to spills and need strategies to mitigate risks.	**(6)** Woodside is part of the Joint Industry Operations and Scientific Monitoring Framework (APPEA, 2021) which has science-based monitoring programs to evaluate environmental damage, including impacts on fisheries. This impact assessment identifies any physiological impacts to important fish and shellfish species and assesses targeted fish and shellfish species for hydrocarbon contamination.	**(6)** Woodside confirmed it was part of the Joint Industry Operations and Scientific Monitoring Framework (APPEA, 2021) which has science-based monitoring programs to evaluate environmental damage, including impacts on fisheries. This impact assessment assesses any physiological impacts to important fish and shellfish species and assesses targeted fish and shellfish species for hydrocarbon contamination.	**(6)** Impacts to spawning and nursery areas included in the hydrocarbon impact assessment Section 7.6.3 of the EP and Appendix G, the Operational and Scientific Monitoring Plan (OSMP), includes methods to assess the impacts to fish species, including key commercial species.
(7) Reviewed importance of biosecurity measures to reduce risk of pest and aquatic diseases and needed notification protocols.	**(7)** Woodside has biosecurity measures in place and works with vessel contractors to ensure adherence to *Australian Biosecurity Act 2015.* It also recognises DPIRD requires notification within 24 hours should marine pests or diseases be detected.	**(7)** Woodside confirmed it worked with its contracted vessel services to be in compliance with all requirements requested by DPIRD and compliance with the *Australian Biosecurity Act 2015.* It also confirmed to DPIRD that marine pests or disease would be reported within 24 hours. Vessels will be assessed and managed to prevent	**(7)** Refer to Section 6.7.17 of the EP.

		introduction of IMS in accordance with Woodside's IMS Management Plan.	
(8) Requested threatened and/or migratory species should be included in EP.	**(8)** Woodside recognises inclusion of threatened and/or migratory species including those associated with the Matters of National Environmental Significance (MNES) in the EP and use of the PMST tool to identify species that could face interaction with the activities.	**(8)** Woodside confirmed it had considered threatened and/or migratory species, including those associated with MNES in EP as well as that it uses the PMST tool to develop all EPs and determine the EPBC species where interaction could take place during activities.	**(8)** Refer to Appendix D of the EP for Environment Protection and Biodiversity Conservation Act Protect Matter Search Tools Results.
(9) Expected that all impacts to fisheries, fishing resources and marine environment are covered in EP with defined mitigation strategies.	**(9)** Woodside understands the importance of identifying strategies to mitigate or minimise impacts to ALARP for fisheries, fish resources and the marine environment and includes this in the EP.	**(9)** Woodside acknowledged that it includes strategies to mitigate and minimise potential impacts to ALARP to fisheries, fishing resources and the marine environment within the EP.	**(9)** Woodside has assessed the potential for interaction with commercial fisheries in Section 4.10.1 and 6.6.1 of the EP.
(10) Noted it may request further consultation, and resolution should there be significant changes to planned activities.	**(10)** Woodside understands that DPIRD may request further consultation and resolution should the activity significantly change and affect fisheries.	**(10)** Woodside understood that DPIRD reserves the right to request further consultation and resolution should any significant and relevant changes affecting fisheries happen prior to completion of activities.	**(10)** Woodside will provide notification of significant change to relevant persons including DPIRD, as referenced as PS 1.4 and Section 7.9 Table 7-7 of the EP.
(11) Requested a fisheries summary be considered for future EP consultation.	**(11)** Woodside understands DPIRD is interested in the development of a fisheries summary for future EP consultation and requested a meeting with DPIRD to discuss further.	**(11)** Woodside and DPIRD met to discuss points about the fisheries summary and ongoing engagement opportunities and consultation for future EPs. Woodside confirmed it will share learnings with broader team and opportunities for early stage engagement when activities are planned near coastal areas and offshore shoals.	**(11)** Not required

While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DPIRD for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DPIRD sufficient information to allow DPIRD to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DPIRD on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 16 May 2025, DPIRD shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable DPIRD to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- In addition to the information in the Consultation Information Sheet, Woodside provided additional information to DPIRD in response to DPIRD's feedback (email of 4 June 2025.

Reasonable Period

Woodside allowed DPIRD a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DPIRD advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.

- Woodside's methodology allows a 30-day consultation period and Woodside allowed DPIRD 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed DPIRD a reasonable period for consultation in preparation of the EP as evidenced by DPIRD's response on 16 May 2025.

Reasonable Opportunity

Woodside allowed DPIRD a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside sent a follow-up email on 30 April 2025.
- Woodside considers a reasonable opportunity was provided to DPIRD as evidenced by its response on 16 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- DPIRD provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from DPIRD.
  - Made no changes or inclusions to the EP as a result of consultation with DPIRD because appropriate measures are already included in the EP.

Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.1.11 Department of Transport and Major Infrastructure (DTMI) (formerly known and consulted as Department of Transport (DoT))

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed the Department of Transport (DoT) advising of the proposed activity (Record of Consultation, reference 6.1.15), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025 as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- On 18 June 2025, Woodside sent DoT the *Okha Floating Production Storage and Offloading (FPSO) Facility Operations Oil Pollution First Strike Plan* for review or comment along with the Consultation Information Sheet and table that summarises information requirements as requested in the *Offshore Petroleum Industry Guidance Note* (July 2020) and from recent engagements between DoT and Woodside. (SI Report A, reference 6.1)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DoT for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DoT sufficient information to allow DoT to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DoT on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed DoT a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DoT advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DoT 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed DoT a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with DoT is appropriate and adapted to the nature of interests of DoT:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding DoT of the opportunity to provide feedback.
- Woodside sent the FSP for review on 18 June 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as DoT did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on DoT's functions, interests or activities.

4.1.12 Pilbara Ports Authority (PPA)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed the Pilbara Ports Authority (PPA) advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025 as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

		Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with PPA for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given PPA sufficient information to allow PPA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to PPA on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed PPA a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to PPA advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed PPA 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed PPA a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with PPA is appropriate and adapted to the nature of interests of PPA:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding PPA of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as PPA did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on PPA's functions, interests or activities.

4.2 Commonwealth and WA State Government departments or agencies – environment

4.2.1 Clean Energy Regulator (CER)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed the Clean Energy Regulator (CER) advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025 as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.
Summary Report – Consultation Complete			
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with CER for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:			

Sufficient Information

Woodside has given CER sufficient information to allow CER to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to CER on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed CER a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to CER advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed CER 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed CER a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with CER is appropriate and adapted to the nature of interests of CER:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding CER of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as CER did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on CER's functions, interests or activities.

4.2.2 Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (marine pests, vessels, aircraft and personnel)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity (marine pests, vessels, aircraft and personnel) advising of the proposed activity (Record of Consultation, reference 6.1.13), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025 as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DAFF– Biosecurity for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DAFF– Biosecurity sufficient information to allow DAFF– Biosecurity to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DAFF– Biosecurity on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.

– Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed DAFF– Biosecurity a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DAFF– Biosecurity advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DAFF 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed DAFF– Biosecurity f a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with DAFF– Biosecurity is appropriate and adapted to the nature of interests of DAFF– Biosecurity:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding DAFF of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as DAFF– Biosecurity did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on DAFF– Biosecurity's functions, interests or activities.

4.2.3 Department of Biodiversity, Conservation and Attractions (DBCA)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed the Department of Biodiversity, Conservation and Attractions (DBCA) advising of the proposed activity (Record of Consultation, reference 6.1.27), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2021 as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

- On 16 May, DPIRD thanked Woodside for the consultation information noting it would provide comments on areas relevant to DBCA's *Conservation and Land Management Act 1984* and *Biodiversity Conservation Act 2016* related responsibilities. (SI Report A, reference 7.1) and:
  - **(1)** Noted activities are within or in proximity to a number of Biologically Important Areas (BIAs) for marine fauna, including the humpback whale, whale shark, flatback turtle and hawksbill turtle and identified marine parks and coastal reserves within the area of the EMBA, including Ningaloo Marine Park (M 2), Barrow Island Nature Reserve (R 11648) and Montebello Islands Marine Park (M 9).
  - **(2)** Noted it was essential to understand and document baseline values and the state of environment that could be potentially affected by a hydrocarbon release before operations commence and:
    - Expected that Woodside has baseline survey data of areas with important ecological values and any existing contamination with EMBA, which includes appropriate baseline abundance and distribution data for seabed habitat and marine fauna in the area of potential impact and information on key habitats for foraging, breeding and aggregating.
    - Noted if baseline information is not available, Woodside should assess what information is aligned with the proposed activities' risk and identify other ways to attain information so any impacts on ecological values and recovery can be identified, monitored and remediated.
  - **(3)** Stated DBCA monitors and publishes reports, but these may not be suitable for baseline information required for oil spill assessment and management planning.
  - **(4)** Recommended Woodside implement a before-after, control-impact (BACI) framework.
  - **(5)** Requested DBCA's Pilbara Region Headquarters is contacted by phone in the event of a hydrocarbon release.
  - **(6)** Noted that it would not implement an oiled wildlife response on behalf of a petroleum operator.
  - **(7)** Woodside should refer to the Department of Transport's (DoT) web content regarding marine pollution and the Offshore Petroleum Industry Guidance Note of 2020 titled *Marine Oil Pollution: Response and Consultation Arrangements*.
- On XX June 2025, Woodside thanked DBCA for the feedback (SI Report A, reference 7.2) and:
  - (1) Acknowledged proximity of proposed activities to BIAs for fauna identified by DBCA and marine parks and coastal reserves in proximity to proposed activities, noting none overlapped Operational Area but some are within EMBA, and comprehensive lists will be covered in the EP.
  - (2) Confirmed EP outlines a suite of management and mitigation measures to reduce environmental risk and impacts from planned activities and includes a detailed risk assessment for hydrocarbon spills and includes description of baseline environmental values of the Operational Area and the EMBA.
    - Woodside has a Management of Knowledge process which includes reviews of emerging scientific literature, government reports and findings from internal and third party studies including those supported by Woodside.
    - Woodside understands importance of current conditions within the EMBA to support key ecological values and outlined its approach:
      - Baseline Data Sources: utilises sources including peer reviewed scientific articles, government-led research, industry reports, historical baseline and monitoring studies and data collected from Woodside's own surveys.
      - Risk-based Data Collection Approach: after desktop review and environmental risk assessment, Woodside identifies where data is insufficient or outdated and will identify appropriate survey programs.
      - Assessment of Information Gaps – if critical baseline data are lacking, Woodside will assess the level of environmental risks posed by activity and identify suitable sources and methodologies to obtain needed information so impacts can be understood, monitored over time and effectively managed and remediated if needed.
  - (3) Noted DBCA's advice regarding the scope of department's monitoring programs and understands how efforts help to inform marine park management rather than oil risk assessments.

- Recognises the importance of having its own baseline data collection and monitoring to support robust environmental impact assessment, oil spill preparedness and response planning.

– **(4)** Confirmed it has developed an Operational and Scientific Monitoring Bridging Implementation Plan (OSM-BIP), which aligns with the Joint Industry Framework that is currently under review with NOPSEMA, and the OSM-BIP includes:
  - Processes for Baseline Data Review and Gap Identifications, Stakeholder Engagement Spill Response and Application of the BACI framework.
  - As needed, BACI approach will be employed depending on availability of suitable baseline data or ability to timely collect it and to support longer term monitoring to track recovery of affected receptors and evaluate restoration effectiveness.
  - Appendix C of OSM-BIP provides inventory of currently available baseline studies.
– **(5)** Confirmed Woodside's Oil Pollution First Strike Plan (FSP) includes commitment to notify DBCA by phone as soon as practicable which is included in the FSP.
– **(6)** Understood that DBCA will not action an oiled wildlife management response on behalf of a petroleum operator.
– **(7)** Noted the recommendation about DoT's marine pollution web content and said it references the *Offshore Petroleum Industry Guidance Note 2020* in standard correspondence with DoT when FSP is sent to it for review.
  - Acknowledged the FSP is informed by the requirements of the Industry Guidance Note.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Proposed activities in proximity to BIAs for marine fauna and marine parks.	**(1)** Woodside is aware of and accounted for Biologically Important Areas (BIAs) and marine parks to ensure there are no credible impacts from planned activities and includes baseline environmental values in the EP.	**(1)** Woodside confirmed that BIAs in the proximity of the EP Operational Area would not be impacted by planned activities and baseline environmental values of the Operational Area and EMBA will be in the EP.	**(1)** The EP demonstrates that the proposed activities are outside the boundaries of a proclaimed State and Commonwealth Marine Parks (Section 4.8). There are no credible impacts to the values of any marine park as a result of planned activities (Section 6.6 of the EP). While impacts to State and Commonwealth Marine Parks are possible in the event of an unplanned hydrocarbon spill, Woodside considers it adopts appropriate controls to prevent a hydrocarbon spill and controls to respond in the highly unlikely event of a hydrocarbon spill, as demonstrated in Section 6.7 of the EP.
(2)	**(2)**	**(2)**	**(2)**

Noted importance of baseline value and the establishment baseline survey data on activities areas, including seabed habitat and marine fauna in area of potential impact.	Woodside understands importance of establishing baseline values and recognises its current approach to include baseline data sources, risk-based collection approach and assessment of information gaps	Woodside confirmed importance of baseline values and how it establishes baseline survey data to understand current conditions within the EMBA, including baseline data sources, risk-based collection approach and assessment of information gaps.	A description of existing environment that may be affected is provided in Section 4 of the EP. Section 4.5 (habitats and biological communities) references baseline data collected within the Operational Area. Appendix C provides further details on the environmental baseline within the EMBA.
(3) Advised while DBCA monitors and publishes reports, they're not suitable for oil spill risk assessment	**(3)** Woodside understands the scope and intent of DBCA's monitoring and reporting and recognises importance of having its own baseline data collection.	**(3)** Woodside acknowledged the scope and intent of DBCA's monitoring efforts and that it recognises the importance of having baseline survey data that is tailored to support the environmental impact assessment, oil spill preparedness and response planning.	**(3)** A description of existing environment that may be affected is provided in Section 4 of the EP. Section 4.5 (habitats and biological communities) references baseline data collected within the Operational Area. Appendix C provides further details on the environmental baseline within the EMBA.
(4) Acquire needed information to implement a Before-After Control Impact (BACI) framework.	**(4)** Woodside understands DBCA's guidance on importance of having information to implement a BACI framework.	**(4)** Woodside confirmed that its OSM-BIP outlines the application of the BACI framework noting the availability of baseline data or ability to timely collect it and how approach supports longer-term monitoring to track recovery and evaluate effectiveness of restoration.	**(4)** Review of knowledge relevant to the existing environment is undertaken as described in Section 7.7.1.3 of the EP.
(5) Notify DBCA Pilbara office in event of hydrocarbon release.	**(5)** Woodside noted DBCA's 'Incidents and Emergency Response' process and need to include DBCA's Pilbara's contact information in Oil Pollution First Strike Plan.	**(5)** Woodside confirmed the DBCA Pilbara phone number had been incorporated as part of the Oil Pollution First Strike Plan.	**(5)** DBCA's Pilbara phone number is incorporated into the Oil Pollution First Strike Plan for this EP (see Appendix H).
(6)	**(6)** Woodside accepts that DBCA would not implement an oiled wildlife management	**(6)** Woodside confirmed that DBCA would not implement an oiled wildlife	**(6)** Woodside's Oiled Wildlife Response is included in the Oil Spill Preparedness

No oiled wildlife response for petroleum operators.	response and notes its own Oiled Wildlife Response is included in the Oil Spill Preparedness and Response Mitigation Assessment for this EP.	management response on behalf of a petroleum operator and confirmed the EP will have its own response included in the Oil Spill Preparedness and Response Mitigation Assessment.	and Response Mitigation Assessment for this EP (see Appendix G).
(7) Refer to DoT's guidance on Marine Oil Pollution.	**(7)** Woodside refers to the DoT's marine pollution content in development of its response plans.	**(7)** Woodside noted DBCA's reference to DoT's marine oil pollution content and confirmed use of the DoT's Industry Guidance Note to inform the FSP.	**(7)** Woodside refers to the specified marine oil pollution content and guidance note in its Oil Pollution First Strike Plan for this activity (Appendix H).
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DBCA for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DBCA sufficient information to allow DBCA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DBCA on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.

  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 16 May 2025, DBCA shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable DBCA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- In addition to the information in the Consultation Information Sheet, Woodside provided additional information to DBCA in response to DBCA's feedback (email of 19 June 2025).

Reasonable Period

Woodside allowed DBCA a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DBCA advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DBCA 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed DBCA a reasonable period for consultation in preparation of the EP as evidenced by DBCA's response on 16 May 2025.

Reasonable Opportunity

Woodside allowed DBCA a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to DBCA as evidenced by its response on 16 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- DBCA provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from DBCA.
  - Made no changes or inclusions to the EP as a result of consultation with DBCA because appropriate measures are already included in the EP.

Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.2.4 Department of Climate Change, Energy, the Environment and Water (DCCEEW)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Department of Climate Change, Energy, the Environment and Water (DCCEEW) advising of the proposed activity (Record of Consultation, reference 6.1.20), provided a Consultation Information Sheet, details of Commonwealth shipwrecks (Record of Consultation, reference 6.1.5) and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DCCEEW for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DCCEEW sufficient information to allow DCCEEW to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DCCEEW on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed DCCEEW a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DCCEEW advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DCCEEW 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed DCCEEW a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with DCCEEW is appropriate and adapted to the nature of interests of DCCEEW:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding DCCEEW of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as DCCEEW did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on DCCEEW's functions, interests or activities.

4.2.5 Director of National Parks (DNP)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed DNP advising of the proposed activity (Record of Consultation, reference 6.1.14), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- On 19 May, DNP thanked Woodside for opportunity to comment (SI Report A, reference 8.1) and noted:
  - **(1)** Planned activity does not overlap any Australian Marine Parks (AMP) and understood distance from Operational Area to nearest marine parks and confirmed there are no DNP authorisation requirements.
  - **(2)** Recognised that Woodside had awareness and consideration of the *Petroleum Activities and Australian Marine Parks* guidance note developed and published jointly by DNP and NOPSEMA so the EP:
    - Identifies and manages impacts and risks on AMP values to an acceptable level.

- Demonstrates activity will not be inconsistent with the *North-west Marine Parks Network M*anagement Plan.

– **(3)** Confirmed it did not require additional notification of progress on the activity, unless:
- There is activity change that results in an overlap or new impact on Marine Park.
- Emergency response is needed with notification to the 24-hour Compliance Duty Officer.

- On 22 May, Woodside thanked the DNP for feedback on the Okha FPSO Facility Operations EP (SI Report A, reference 8.2) and:
  – **(1)** Noted DNP's confirmation that planned activity did not overlap marine parks, so no there are no authorisation requirements needed.
  – **(2)** Affirmed DNP's recognition that Woodside has considered the *Petroleum Activities and Australian Marine Parks* guidance note to:
    - Manage impacts and risks on AMP values and keep to acceptable level or reduce them to ALARP.
    - Demonstrate activity will be consistent with the management plan.
  – **(3)** Understood that DNP does not require further notification on the planned activity unless:
    - Activity change results in an overlap or new impact on Marine Park.
    - Emergency response is needed, and notification will go to DNP's 24-hour Marine Compliance Officer.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Confirmed planned activity does not overlap AMPs.	**(1)** Woodside had not identified any overlap with AMPs prior to consultation and accepts DNP's confirmation.	**(1)** Woodside noted DNP's confirmation that given there is no activity overlap with AMPs, that no authorisation requirements are needed.	**(1)** Not required.
(2) Recognised Woodside's awareness of the *Petroleum Activities and Australian Marine Parks* guidance note.	**(2)** Woodside understands DNP's assessment that it (Woodside) has awareness and consideration of the guidance note to manage impacts and risks on AMP values.	**(2)** Woodside accepted DNP's confirmation that it has awareness and consideration of the guidance note to manage impacts and risks on AMP values.	**(2)** The EP demonstrates how Woodside will identify and manage all impacts and risks on Australian Marine Park values (including ecosystem values) to an ALARP and acceptable level and that the activity is not inconsistent with the management plan (see Sections 6.6 and 6.7 of the EP).
(3) Confirmed it did not need additional notifications unless there is activity change or emergency response.	**(3)** Woodside understands DNP does not require further notification about the planned activity unless there are	**(3)** Woodside noted that DNP does not require further notifications about the activity unless there are changes that	**(3)** Woodside will provide notification of significant change, as appropriate, to relevant persons as referenced in Table

	changes or emergency response needed.	overlap or impact an AMP or an emergency response is required.	7-7 of the EP. Woodside will ensure DNP is made aware of any incidences within a marine park for the activity, as per the commitment in the Oil Pollution First Strike Plan (Appendix H)
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DNP for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DNP sufficient information to allow DNP to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DNP on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 19 May 2025, DNP shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable DNP to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.

Reasonable Period

Woodside allowed DNP a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DNP advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DNP 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed DNP a reasonable period for consultation in preparation of the EP as evidenced by DNP's response on 19 May 2025.

Reasonable Opportunity

Woodside allowed DNP a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to DNP as evidenced by its response on 19 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- DNP provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from DNP.
  - Made no changes or inclusions to the EP as a result of consultation with DNP because appropriate measures are already included in the EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.2.6 Ningaloo Coast World Heritage Advisory Committee (NCWHAC)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed NCWHAC advising of the proposed activity (Record of Consultation, reference 6.1.7, provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with NCWHAC for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given NCWHAC sufficient information to allow NCWHAC to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to NCWHAC on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed NCWHAC a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to NCWHAC advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed NCWHAC 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed NCWHAC a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with NCHWAC is appropriate and adapted to the nature of interests of NCWHAC:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding NCWHAC of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as NCWHAC did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on NCWHAC's functions, interests or activities.

4.3 Commonwealth and WA State Government departments or agencies – industry

4.3.1 Department of Mines, Petroleum and Exploration (DMPE) (formerly known and consulted as Department of Energy, Mines, Industry Regulation and Safety (DEMIRS))

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed DEMIRS advising of the proposed activity (Record of Consultation, reference 6.1.7, provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate,	No additional measures or controls are required.

		Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DEMIRS for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DEMIRS sufficient information to allow DEMIRS to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DEMIRS on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed DEMIRS a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DEMIRS advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DEMIRS 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed DEMIRS a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with DEMIRS is appropriate and adapted to the nature of interests of DEMIRS:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.

- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding DEMIRS of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as DEMIRS did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on DEMIRS's functions, interests or activities.

4.3.2 Department of Industry, Science and Resources (DISR)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed DSIR advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with DSIR for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given DISR sufficient information to allow DISR to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to DISR on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed DISR a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to DISR advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed DISR 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed DSIR a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with DSIR is appropriate and adapted to the nature of interests of DISR:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding DISR of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as DSIR did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on DSIR's functions, interests or activities.

4.4 Commonwealth commercial fisheries and peak representative bodies

4.4.1 Commonwealth Fisheries Association (CFA)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed CFA advising of the proposed activity (Record of Consultation, reference 6.1.12), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Woodside has assessed the potential for interaction with Commonwealth-managed commercial fisheries in Section 4.10.1 of this EP. No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with CFA for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given CFA sufficient information to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to CFA on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.

– Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed CFA a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to CFA advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed CFA 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed CFA a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with CFA is appropriate and adapted to the nature of interests of CFA:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding CFA of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as CFA did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on CFA's functions, interests or activities.

4.4.2 North West Slope Trawl Fishery

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the North West Slope Trawl Fishery advising of the proposed activity (Record of Consultation, reference 6.1.12), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Woodside has assessed the potential for interaction with Commonwealth-managed commercial fisheries in Section 4.10.1 of this EP. No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with North West Slope Trawl Fishery for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given North West Slope Trawl Fishery sufficient information to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to North West Slope Trawl Fishery on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed North West Slope Trawl Fishery a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to North West Slope Trawl Fishery advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed North West Slope Trawl Fishery 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed North West Slope Trawl Fishery a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with North West Slope Trawl Fishery is appropriate and adapted to the nature of interests of North West Slope Trawl Fishery

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding North West Slope Trawl Fishery of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Northwest Slope Trawl Fishery did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on North West Slope Trawl Fishery's functions, interests or activities.

4.4.3 Tuna Australia

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed the Tuna Australia advising of the proposed activity (Record of Consultation, reference 6.1.12), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate,	Woodside has assessed the potential for interaction with Commonwealth-managed commercial fisheries in Section 4.10.1 of this EP.

		Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Tuna Australia for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Tuna Australia sufficient information to allow Tuna Australia to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Tuna Australia on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Tuna Australia a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Tuna Australia advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Tuna Australia 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Tuna Australia a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Tuna Australia is appropriate and adapted to the nature of interests of Tuna Australia:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Tuna Australia of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Tuna Australia did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Tuna Australia's functions, interests or activities.

4.4.4 Western Deepwater Trawl Fishery

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Western Deepwater Trawl Fishery advising of the proposed activity (Record of Consultation, reference 6.1.12), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Woodside has assessed the potential for interaction with Commonwealth-managed commercial fisheries in Section 4.10.1 of this EP. No additional measures or controls are required.
Summary Report – Consultation Complete			

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Western Deepwater Trawl Fishery for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Western Deepwater Trawl Fishery sufficient information to allow Western Deepwater Trawl Fishery to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Western Deepwater Trawl Fishery on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Western Deepwater Trawl Fishery a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Western Deepwater Trawl Fishery advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Western Deepwater Trawl Fishery 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Western Deepwater Trawl Fishery a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Western Deepwater Trawl Fishery is appropriate and adapted to the nature of interests of Western Deepwater Trawl Fishery:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Western Deepwater Trawl Fishery of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Western Deepwater Trawl Fishery did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.
- The measures and controls described in this EP address the potential impact from the proposed activity on Western Deepwater Trawl Fishery's functions, interests or activities.

4.4.5 Western Tuna and Billfish Fishery

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Western Tuna and Billfish Fishery advising of the proposed activity (Record of Consultation, reference 6.1.12), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025 as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Woodside has assessed the potential for interaction with Commonwealth-managed commercial fisheries in Section 4.10.1 of this EP. No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Western Tuna and Billfish Fishery for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Western Tuna and Billfish Fishery sufficient information to allow Western Tuna and Billfish Fishery to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Western Tuna and Billfish Fishery on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Western Tuna and Billfish Fishery a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Western Tuna and Billfish Fishery advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Western Tuna and Billfish Fishery 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Western Tuna and Billfish Fishery a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Western Tuna and Billfish Fishery is appropriate and adapted to the nature of interests of Western Tuna and Billfish Fishery:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Western Tuna and Billfish Fishery of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Western Tuna and Billfish Fishery did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.
- The measures and controls described in this EP address the potential impact from the proposed activity on Western Tuna and Billfish Fishery's functions, interests or activities.

4.5 State commercial fisheries and peak representative bodies

4.5.1 Western Australian Fishing Industry Council (WAFIC)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed WAFIC advising of the proposed activity (Record of Consultation, reference 6.1.25), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- On 9 April 2025, Woodside emailed WAFIC to confirm it had received consultation information for Okha and another EP where consultation started on 31 March. (SI Report A, reference 9.1)

- On 10 April, WAFIC and Woodside emailed each other to support WAFIC's outreach to state fishery license holders on behalf of Woodside's EP consultation efforts (SI Report A, references 9.2 – 9.7).
- **(1)** On 10 April, WAFIC emailed to confirm consultation materials were distributed to licence holders across four fisheries. (SI Report A, reference 9.8)
- (1) On 11 April, Woodside thanked WAFIC for sending the consultation information to the state fishery licence holders. (SI Report A, reference 9.9)
- **(2)** On 23 May, WAFIC confirmed it did not receive any industry feedback (SI Report A, reference 9.10) and understood Woodside had the following in place in the event of an unplanned event:
  - **(3)** Included WAFIC as contact in oil spill response planning docs and noted WAFIC could assist with communications to fishing industry as needed.
  - **(4)** Maintained a current list of WA commercial fisheries that could be impacted by unplanned event.
  - **(5)** Had a suitable Operational and Scientific Monitoring Program (OSMP).
- **(6)** Noted Woodside's ongoing communications with mariners and asked to be included in any vessel operation look ahead.
- **(3)** Shared link with WAFIC's position regarding consultation with WA fishing industry during unplanned events.
- On 27 May, Woodside thanked WAFIC for its comments (SI Report A, reference 9.11) and:
  - (2) Noted WAFIC did not receive any feedback from the WA fishing industry.
  - (3) Confirmed it had an Oil Pollution First Strike Plan in place for all EPs which includes that all relevant persons or organisations will be notified in the event of an unplanned event which includes WAFIC.
    - Noted WAFIC was available to assist with communications to fishing industry.
  - (4) Confirmed it maintained a list of WA commercial fisheries.
  - (5) Confirmed it had an OSMP in place and was a founding member of industry group to ensure robust, consistent and collaborative approach to OSMP.
  - (3) Noted WAFIC's position regarding consultation with WA fishing industry during unplanned events.
- (6) Confirmed it would notify WAFIC when vessels would be in the Operational Area (but outside the Petroleum Safety Zones) for more than three weeks at a time.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Confirmed consultation information was sent to fisheries/licence holders.	**(1)** Woodside noted that consultation information had been distributed to relevant fishery licence holders via WAFIC.	**(1)** Woodside thanked WAFIC for distributing consultation information to relevant fishery licence holders.	**(1)** Not required.
(2) No feedback from fishing industry members	**(2)**	**(2)** Woodside acknowledged that WAFIC did not receive any feedback resulting	**(2)** Not required.

	Woodside notes that WAFIC did not get any feedback from its fishing industry members.	from consultation with fishing industry members.	
(3) Wants to be included as contact in planning documents and can support as needed.	**(3)** Woodside understands WAFIC wants to have its contact information included in oil spill response planning documents and can assist with outreach to fishing industry.	**(3)** Woodside confirmed that the FSP includes notification of relevant persons or organisations will be notified in the event of an unplanned event and that WAFIC available to assist with fishing industry communications.	**(3)** Refer to Appendix G of the EP.
(4) Wants to confirm Woodside maintains list of WA commercial fisheries.	**(4)** Woodside understands importance of maintaining current list of WA commercial fisheries.	**(4)** Woodside confirmed it maintains a list of WA commercial fisheries.	**(4)** Section 4.10.1 of the EP has a list/assessment of fisheries relevant to the Operational Area and EMBA.
(5) Have a suitable OSMP in place.	**(5)** Woodside recognises WAFIC's concerns related to an unplanned event and notes that its Oil Pollution First Strike Plan and involvement with the industry Operational and Scientific Monitoring Program (OSMP) addresses the concerns.	**(5)** Woodside confirmed its Oil Pollution First Strike Plan and also noted it is a founding member of new industry Operational and Scientific Monitoring Program (OSMP) to ensure a strong and consistent approach to OSMP.	**(5)** Refer to Appendixes G and H of the EP.
(6) Requested notifications of vessel activities.	**(6)** Woodside agrees that WAFIC should receive notifications given activities take place in areas where state fisheries are active.	**(6)** Woodside will send WAFIC notifications when there will be vessel activity in the Operational Area (but outside the Petroleum Safety Zone) for >3 weeks.	**(6)** Woodside will provide notifications to WAFIC as set out in PS 1.7 of EP and Section 7.9, table 7-7 of this EP.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its	Woodside has assessed the potential for interaction with State-managed fisheries in Section 4.10.1 of this EP. No additional controls or measures are required.

		Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with WAFIC for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given WAFIC sufficient information to allow WAFIC to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to WAFIC on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans'*.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 23 May 2025, WAFIC shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable WAFIC to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- In addition to the information in the Consultation Information Sheet, Woodside provided additional information to WAFIC in response to WAFIC's feedback (email of 23 May 2025).

Reasonable Period

Woodside allowed WAFIC a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to WAFIC advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed WAFIC more than 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed WAFIC a reasonable period for consultation in preparation of the EP as evidenced by WAFIC's response on 23 May 2025.

Reasonable Opportunity

Woodside allowed WAFIC a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to WAFIC as evidenced by its response on 25 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- WAFIC provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from WAFIC.
  - Aside from including WAFIC in the notifications table, made no changes or inclusions to the EP as a result of consultation with WAFIC because appropriate measures are already included in the EP.

Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.5.2 Aquaculture Council of Western Australia (ACWA)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the ACWA advising of the proposed activity (Record of Consultation, reference 6.1.26), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Woodside has assessed the potential for interaction with State-managed fisheries in Section 4.10.1 of this EP. No additional measures or controls are required.
Summary Report – Consultation Complete			

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with ACWA for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given ACWA sufficient information to allow ACWA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside emailed or mailed this information to ACWA on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link or QR Code to access NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed ACWA a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to ACWA advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed ACWA 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed ACWA a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with ACWA is appropriate and adapted to the nature of interests of ACWA:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding ACWA of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as ACWA did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on ACWA's functions, interests or activities.

4.5.3 Mackerel Managed Fishery (Area 2), Pilbara Trawl Fishery, Pilbara Trap Fishery, Pilbara Line Fishery

Summary of information provided and record of consultation for this EP:

- On 10 April 2025, Woodside emailed Mackerel Managed Fishery (Area 2), Pilbara Trawl Fishery, Pilbara Trap Fishery and Pilbara Line Fishery (State Fishery licence holders) via WAFIC advising of the proposed activity, provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'. (Record of Consultation, reference 6.1.25.1).
- Based on WAFIC's consultation guidelines, no follow-up email was required for the State Fishery license holders.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received.		Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Woodside has assessed the potential for interaction with State-managed fisheries in Section 4.10.1 of this EP. No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Mackerel Managed Fishery (Area 2), Pilbara Trawl Fishery, Pilbara Trap Fishery, Pilbara Line Fishery (State Fishery licence holders) for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given State Fishery licence holders via WAFIC sufficient information to allow the State Fishery licence holders to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to State Fishery licence holders via WAFIC on 10 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed State Fishery licence holders a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to State Fishery licence holders advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed State Fishery licence holders 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed State Fishery licence holders a reasonable period for consultation in preparation of the EP as evidenced by WAFIC's response on 23 May 2025.

Reasonable Opportunity

Woodside allowed State Fishery licence holders a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to State Fishery licence holders as evidenced by WAFIC's response on 23 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as State Fishery licence holders did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on State Fishery license holders' functions, interests or activities.

4.5.4 West Coat Rock Lobster Fishery

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside mailed a letter to the West Coast Rock Lobster Fishery license holders advising of the proposed activity (Record of Consultation, reference 6.1.18), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up letter (Record of Consultation, reference 6.2.2).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Woodside has assessed the potential for interaction with State-managed fisheries in Section 4.10.1 of this EP. No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with West Coast Rock Lobster Fishery for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given West Coast Rock Lobster Fishery sufficient information to allow West Coast Rock Lobster Fishery to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside mailed this information to West Coast Rock Lobster Fishery on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed West Coast Rock Lobster Fishery a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to West Coast Rock Lobster Fishery advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed West Coast Rock Lobster Fishery 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed West Coast Rock Lobster Fishery a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with West Coast Rock Lobster Fishery is appropriate and adapted to the nature of interests of West Coast Rock Lobster Fishery

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside mailed a follow-up consultation letter on 30 April 2025, reminding West Coast Rock Lobster Fishery of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as West Coast Rock Lobster Fishery did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on West Coast Rock Lobster Fishery's functions, interests or activities.

4.5.5 Western Rock Lobster Council

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed the Western Rock Lobster Council advising of the proposed activity (Record of Consultation, reference 6.1.17), provided a Consultation Information Sheet, and a Link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	Woodside has assessed the potential for interaction with State-managed fisheries in Section 4.10.1 of this EP. No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Western Rock Lobster Council for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Western Rock Lobster Council sufficient information to allow Western Rock Lobster Council to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Western Rock Lobster Council on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Western Rock Lobster Council a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Western Rock Lobster Council advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Western Rock Lobster Council 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed Western Rock Lobster Council a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Western Rock Lobster Council is appropriate and adapted to the nature of interests of Western Rock Lobster Council

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Western Rock Lobster Council of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Western Rock Lobster Council did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Western Rock Lobster Council s functions, interests or activities.

4.6 Recreational marine users and peak representative bodies

4.6.1 Gascoyne Recreational Marine Users, Pilbara/Kimberley Recreational Marine Users and West Coast Recreational Marine Users

Summary of information provided and record of consultation for this EP:

- On 7 April 2025 Woodside emailed or sent letters to the Gascoyne Recreational Marine Users, Pilbara/Kimberley Recreational Marine Users and West Coast Recreational Marine Users advising of the proposed activity (Record of Consultation, references 6.1.17 and 6.1.18), provided a Consultation Information Sheet, and a link or QR code to access NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email or letter (Record of Consultation, references 6.2.1 and 6.2.2).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Gascoyne Recreational Marine Users, Pilbara/Kimberley Recreational Marine Users and West Coast Marine Users (referenced collectively below as Recreational Marine Users) for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Recreational Marine Users sufficient information to allow Recreational Marine Users to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside emailed or mailed this information to Recreational Marine Users on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link or QR Code to access NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Recreational Marine Users a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Recreational Marine Users advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Recreational Marine Users 30 days for consultation.

- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Recreational Marine Users a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Recreational Marine Users is appropriate and adapted to the nature of interests of Recreational Marine Users:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Recreational Marine Users of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Recreational Marine Users did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Recreational Marine Users' functions, interests or activities.

4.6.2 Marine Tourism WA

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Marine Tourism WA advising of the proposed activity (Record of Consultation, reference 6.1.17), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

		Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Marine Tourism WA for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Marine Tourism WA sufficient information to allow Marine Tourism WA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Marine Tourism WA on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Marine Tourism WA a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Marine Tourism WA advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Marine Tourism WA 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Marine Tourism WA a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Marine Tourism WA s appropriate and adapted to the nature of interests of Marine Tourism WA.

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Marine Tourism WA of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Marine Tourism WA did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Marine Tourism WA's functions, interests or activities.

4.6.3 Recfishwest

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Recfishwest advising of the proposed activity (Record of Consultation, reference 6.1.17), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- On 13 May, Recfishwest thanked Woodside for the Okha information (SI Report A, reference 10.1) and:
  - **(1)** Noted the plans for the EP included processing and production of oil and gas, vessel-based routine and non-routine inspection, monitoring, maintenance and repair activities, and facility operations and confirmed it had no concerns given there were no new activities.
  - **(2)** Recognised the general area was accessed by the charter industry and recreational fishers.
  - **(3)** Requested to be kept informed as operations continued.
- On 13 May 2025, Woodside thanked Recfishwest for its feedback (SI Report A, reference 10.2) and:
  - (1) Noted Recfishwest had no concerns about the activity given there were no new activities planned.
  - (2) Understood the general area of operations was accessed by charter industry and recreational fishers in large vessels.
  - (3) Confirmed Recfishwest would receive notifications when vessels would be in the Operational Area (but outside the Petroleum Safety Zone PSZ) for more than three weeks.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Confirmed no concerns given there were no new activities.	**(1)** Woodside accepts Recfishwest has no concerns given no new activities are included.	**(1)** Woodside noted that Recfishwest had no concerns about EP activities.	**(1)** Not required
(2)	**(2)**	**(2)**	**(2)**

Noted that the general area is used by charter industry and recreational fishers in large vessels.	Woodside is aware of the vessel activity in the general area of the Operational Area and understands why Recfishwest is addressing.	Woodside noted the general area is accessed by the charter industry and recreational fishers in large vessels.	Not required.
(3) Requested to be kept informed as operations continue.	**(3)** Woodside recognises Recfishwest would like to be kept informed on the continuing operations.	**(3)** Woodside confirmed it would send notifications when vessels are in the Operational Area (but outside the PSZ) for more than three weeks.	**(3)** Woodside will provide notifications as referenced in Section 7.9 Table 7-7 of the EP.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Recfishwest for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Recfishwest sufficient information to allow Recfishwest to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Recfishwest on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

- On 13 May 2025, Recfishwest shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable Recfishwest to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- In addition to the information in the Consultation Information Sheet, Woodside provided additional information to Recfishwest in response to Recfishwest's feedback (email of 13 May 2025).

Reasonable Period

Woodside allowed Recfishwest a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Recfishwest advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Recfishwest 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Recfishwest a reasonable period for consultation in preparation of the EP as evidenced by Recfishwest's response on 13 May 2025

Reasonable Opportunity

Woodside allowed Recfishwest a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to Recfishwest as evidenced by its response on 13 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Recfishwest provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from Recfishwest.
  - Made no changes or inclusions to the EP as a result of consultation with Recfishwest because appropriate measures are already included in the EP.

Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.6.4 WA Game Fishing Association

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed WA Game Fishing Association advising of the proposed activity (Record of Consultation, reference 6.1.17), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with WA Game Fishing Association for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given WA Game Fishing Association sufficient information to allow WA Game Fishing Association to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to WA Game Fishing Association on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed WA Game Fishing Association a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to WA Game Fishing Association advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed WA Game Fishing Association 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed WA Game Fishing Association a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with WA Game Fishing Association is appropriate and adapted to the nature of interests of WA Game Fishing Association:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding WA Game Fishing Association of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as WA Game Fishing Association did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on WA Game Fishing Association's functions, interests or activities.

4.7 Titleholders and operators

4.7.1 3D Energi Ltd, Allasso Energy, BP Developments Australia, CarbonCQ P/L, Carnarvon Energy, Coastal Oil and Gas, Energy Resources Ltd, Finder Energy (No 16), INPEX, Jadestone, JX Nippon O&G Exploration (Australia), KATO Energy/KATO NWS/KATO Amulet/KATO Corowa, Kyushu Electric Wheatstone, Mobil Australia Resources Company, OMV Australia, Pathfinder Energy, PE Wheatstone, Pelsart Resources N/L, SK Earthon Australia P/L, Skye Napoleon P/L, Tanami Energy

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed 3D Energi Ltd, Allasso Energy, BP Developments Australia, CarbonCQ P/L, Carnarvon Energy, Coastal Oil and Gas, Energy Resources Ltd, Finder Energy (No 16), INPEX, Jadestone, JX Nippon O&G Exploration (Australia), KATO Energy/KATO NWS/KATO Amulet/KATO Corowa, Kyushu

Electric Wheatstone, Mobil Australia Resources Company, OMV Australia, Pathfinder Energy, PE Wheatstone, Pelsart Resources N/L, SK Earthon Australia P/L, Skye Napoleon P/L, Tanami Energy, which will be referred collectively below as Titleholders and Operators advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.

- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email to the Titleholders and Operators. (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Titleholders and Operators for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Titleholders and Operators sufficient information to allow Titleholders and Operators to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Titleholders and Operators on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Titleholders and Operators a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Titleholders and Operators advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Titleholders and Operators 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Titleholders and Operators a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Titleholders and Operators is appropriate and adapted to the nature of interests of Titleholders and Operators:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Titleholders and Operators of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Titleholders and Operators did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Titleholders and Operators' functions, interests or activities.

4.7.2 Chevron Australia

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Chevron advising of the proposed activity (Record of Consultation, reference 6.1.2, provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025 as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- **(1)** On 15 May 2025, Chevron emailed to confirm it had no feedback on the activity. (SI Report A, reference 14.1)
- **(1)** On 16 May 2025, Woodside thanked Chevron for its response and confirmed it had no feedback. (SI Report A, reference 14.2)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Confirmed it had no feedback.	**(1)** Woodside understands that Chevron does not have feedback on the Okha EP.	**(1)** Woodside noted that Chevron had no feedback on the EP.	**(1)** Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.
Summary Report – Consultation Complete			

Summary Report – Consultation Complete
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Chevron for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically: **Sufficient Information** Woodside has given Chevron sufficient information to allow Chevron to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because: • The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Chevron on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included: – The purpose of consultation and set out what was being sought through consultation. – A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures. – A timeframe for consultation and the provision of feedback. – A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'. – Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations). • On 15 May 2025, Chevron shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable Chevron to make an informed assessment of the possible consequences of the activity on its functions, interests or activities. • In addition to the information in the Consultation Information Sheet, Woodside provided additional information to Chevron in response to Chevron's feedback (email of 15 May 2025). **Reasonable Period** Woodside allowed Chevron a reasonable period for consultation in the preparation of this EP because: • A consultation period was stated in the initial correspondence to Chevron advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission. • Woodside's methodology allows a 30-day consultation period and Woodside allowed Chevron 30 days for consultation. • Consultation for this EP commenced 3 months ago. • In this context, Woodside allowed Chevron a reasonable period for consultation in preparation of the EP as evidenced by Chevron's response on 15 May 2025. **Reasonable Opportunity** Woodside allowed Chevron a reasonable opportunity for consultation in the preparation of this EP because: • Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation. • Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.

- Woodside considers a reasonable opportunity was provided to Chevron as evidenced by its response on 15 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Chevron provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from Chevron.
  - Made no changes or inclusions to the EP as a result of consultation with Chevron because appropriate measures are already included in the EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.7.3 Western Gas

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Western Gas advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- **(1)** On 9 April 2025, Western Gas emailed Woodside and confirmed it had no feedback and no further consultation needs. (SI Report A, reference 20.1)
- **(1)** On 10 April 202, Woodside thanked Western Gas for its response and confirmed it had no feedback and did not require further consultation (SI Report A, reference 20.2)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) No feedback or further consultation needed.	**(1)** Woodside understands that Western Gas has no feedback and does not require further consultation.	**(1)** Woodside confirmed with Western Gas that it had no feedback and did not require further consultation on the Okha EP.	**(1)** Not required
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where	No additional controls or measures are required.

		appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Western Gas for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Western Gas sufficient information to allow Western Gas to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Western Gas on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 9 April, Western Gas shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable Western Gas to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- In addition to the information in the Consultation Information Sheet, Woodside provided additional information to Western Gas in response to Western Gas's feedback (email of (9 April).

Reasonable Period

Woodside allowed Western Gas a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Western Gas advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Western Gas 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Western Gas a reasonable period for consultation in preparation of the EP as evidenced by Western Gas's response on 9 April 2025.

Reasonable Opportunity

Woodside allowed Western Gas a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to Western Gas as evidenced by its response on 9 April 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Western Gas provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from Western Gas.
  - Made no changes or inclusions to the EP as a result of consultation with Western Gas because appropriate measures are already included in the EP.

Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.7.4 InCapture

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed InCapture advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 9 April 2025, InCapture responded to Woodside. (SI Report A, reference 16.1). InCapture provided feedback that did not relate to an adverse impact of the proposed activity.
- On 10 April 2025, Woodside thanked InCapture for its response. (SI Report A, reference, 16.2)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.

Summary Report – Consultation Complete
Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with InCapture for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically: **Sufficient Information** Woodside has given InCapture sufficient information to allow InCapture to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because: • The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to InCapture on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included: – The purpose of consultation and set out what was being sought through consultation. – A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures. – A timeframe for consultation and the provision of feedback. – A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'. – Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations). • On 9 April 2025, InCapture shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable InCapture to make an informed assessment of the possible consequences of the activity on its functions, interests or activities. **Reasonable Period** Woodside allowed InCapture a reasonable period for consultation in the preparation of this EP because: • A consultation period was stated in the initial correspondence to InCapture advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission. • Woodside's methodology allows a 30-day consultation period and Woodside allowed InCapture 30 days for consultation. • Consultation for this EP commenced 3 months ago. • In this context, Woodside allowed InCapture a reasonable period for consultation in preparation of the EP as evidenced by InCapture's response on 9 April 2025. **Reasonable Opportunity** Woodside allowed InCapture a reasonable opportunity for consultation in the preparation of this EP because: • Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation. • Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation. • Woodside considers a reasonable opportunity was provided to InCapture as evidenced by its response on 9 April 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- InCapture provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from InCapture.
  - Made no changes or inclusions to the EP as a result of consultation with InCapture because appropriate measures are already included in the EP.

Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.7.5 OPIC Australia

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed OPIC Australia advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- **(1)** On 1 May 2025, OPIC Australia thanked Woodside contacting it and said it had no comments on the Okha EP. (SI Report A, reference 17.1)
- **(1)** On 5 May, Woodside thanked OPIC Australia for its response and noted that it had no comments for the Okha EP. (SI Report A, reference 17.2)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) No comments on the activities.	**(1)** Woodside understands that OPIC Australia has no comments on the EP.	**(1)** Woodside noted OPIC Australis's position that it had no comments on the EP.	**(1)** Not required
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its	No additional controls or measures are required.

		Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with OPIC Australia for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given OPIC Australia sufficient information to allow OPIC Australia to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to OPIC Australia on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 30 April, Woodside sent a follow-up email to OPIC Australia.
- On 1 May 2025, OPIC Australia shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable OPIC Australia to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.

Reasonable Period

Woodside allowed OPIC Australia a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to OPIC Australia advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed OPIC Australia 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed OPIC Australia a reasonable period for consultation in preparation of the EP as evidenced by OPIC Australia's response on 1 May 2025.

Reasonable Opportunity

Woodside allowed OPIC Australia a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to OPIC Australia as evidenced by its response on 1 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- OPIC Australia provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from OPIC Australia.
  - Made no changes or inclusions to the EP as a result of consultation with OPIC Australia because appropriate measures are already included in the EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.7.6 KUFPEC

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed KUFPEC advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- **(1)** On 1 May 2025, KUFPEC thanked Woodside for the communications on Okha and said it had no objections on the proposed activities. (SI Report A, reference 15.1)
- **(1)** On 5 May, Woodside thanked KUFPEC for its response and noted that it had no objections. (SI Report A, reference 15.2)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) No objections on activities.	**(1)** Woodside understands that KUFPEC has no objections on the EP's proposed activities.	**(1)** Woodside noted KUFPEC's position that it had no objections to the planned activities associated with the EP.	**(1)** Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing	No additional controls or measures are required.

	the EP relates, as required under Regulation 24.	consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with KUFPEC for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given KUFPEC sufficient information to allow KUFPEC to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to KUFPEC on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 1 May 2025, KUFPEC shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable KUFPEC to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.

Reasonable Period

Woodside allowed KUFPEC a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to KUFPEC advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed KUFPEC 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed KUFPEC a reasonable period for consultation in preparation of the EP as evidenced by KUFPEC's response on 1 May 2025.

Reasonable Opportunity

Woodside allowed KUFPEC a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to KUFPEC as evidenced by its response on 1 May 2025

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- KUFPEC provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from KUFPEC.
  - Made no changes or inclusions to the EP as a result of consultation with KUFPEC because appropriate measures are already included in the EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.7.7 Vermilion Oil and Gas

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Vermilion advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- On 9 May 2025, Vermilion emailed Woodside (SI Report A, reference 19.1) and
  - **(1)** Followed up on its previous request to have Woodside update Vermilion contact details.
  - **(2)** Confirmed it had no comments on the EP.
- On 12 May, Woodside thanked Vermilion for its response (SI Report A, reference 19.2) and:
  - **(2)** Noted that it had no comments for the Okha FPSO Facility Operations EP.
  - **(1)** Confirmed it had updated Vermilion's email for consultation in its system.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Provided updated email address to receive communications.	**(1)** Woodside has updated Vermilion's contact details.	**(1)** Woodside updated Vermilion's email	**(1)** Not required.

		address in its system for stakeholder communications.	
(2) Confirmed it had no comments on EP.	**(2)** Woodside accepts that Vermilion has no comments on the EP.	**(2)** Woodside noted that Vermilion had no comments on the Okha EP.	**(2)** Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Vermilion for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Vermilion sufficient information to allow Vermilion to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Vermilion on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 30 April 2025, Woodside sent a follow up email to Vermilion.
- On 9 May 2025 Vermilion shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable Vermilion to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.

- Woodside responded o Vermilion's feedback (email of 9 May 2025).

Reasonable Period

Woodside allowed Vermilion a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Vermilion advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Vermilion 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Vermilion a reasonable period for consultation in preparation of the EP as evidenced by Vermilion's response on 9 May 2025.

Reasonable Opportunity

Woodside allowed Vermilion a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to Vermilion as evidenced by its response on 9 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Vermilion provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from Vermilion.
  - Made no changes or inclusions to the EP as a result of consultation with Vermilion because appropriate measures are already included in the EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.7.8 Santos

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Santos advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email. (Record of Consultation, reference 6.2.1)

- **(1)** On 16 May 2025, Santos thanked Woodside for consultation emails and said it had no claims or objections to the proposed activities associated with the five-year revision of the Okha FPSO Facility Operations EP. (SI Report A, reference 18.1)
- **(1)** On 20 May 2025, Woodside thanked Santos for the response and noted it had no claims or objections in relation to the planned activity. (SI Report A, reference 18.2)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Confirmed it had no claims or objections to planned activity.	**(1)** Woodside understands Santos has no claims or objections in relation to the 5-year revision of the Okha FPSO EP.	**(1)** Woodside noted Santos had no claims or objections related to the planned activity in the Okha FPSO EP.	**(1)** Not required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Santos for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Santos sufficient information to allow Santos to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Santos on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.

  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 30 April 2025, Woodside sent a follow-up email to Santos.
- On 16 May 2025, Santos shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable Santos to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.

Reasonable Period

Woodside allowed Santos a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Santos advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Santos 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Santos a reasonable period for consultation in preparation of the EP as evidenced by Santos' response on 16 May 2025

Reasonable Opportunity

Woodside allowed Santos a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to Santos as evidenced by its response on 16 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Santos provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from Santos.
  - Made no changes or inclusions to the EP as a result of consultation with Santos because appropriate measures are already included in the EP.

Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.8 Peak industry representative bodies

4.8.1 Australian Energy Producers (AEP)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed AEP advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with AEP for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given AEP sufficient information to allow AEP to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to AEP on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed AEP a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to AEP advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed AEP 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed AEP a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with AEP is appropriate and adapted to the nature of interests of AEP:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding AEP of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as AEP did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.
- The measures and controls described in this EP address the potential impact from the proposed activity on AEP's functions, interests or activities.

4.9 Historical heritage groups or organisations

4.9.1 Western Australian Museum (WAM)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the WAM advising of the proposed activity (Record of Consultation, reference 6.1.22), provided a Consultation Information Sheet, details of WA shipwrecks (Record of Consultation, reference 6.1.5) and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with WAM for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given WAM sufficient information to allow WAM to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to WAM on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed WAM a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to WAM advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed WAM 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed WAM reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with WAM is appropriate and adapted to the nature of interests of WAM:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding WAM of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as WAM did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on WAM's functions, interests or activities.

4.10 Local government and elected parliamentary representatives, community groups or organisations

4.10.1 Broome Chamber of Commerce and Industry (Broome CCI)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Broome CCI advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

		Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Broome CCI or the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Broome CCI sufficient information to allow Broome CCI to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Broome CCI on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Broome CCI a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Broome CCI advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Broome CCI 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Broome CCI a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Broome CCI is appropriate and adapted to the nature of interests of Broome CCI:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Broome CCI of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Broome CCI did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Broome CCI's functions, interests or activities.

4.10.2 Carnarvon Chamber of Commerce and Industry (Carnarvon CCI)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Carnarvon CCI advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Carnarvon CCI for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Carnarvon CCI sufficient information to allow Carnarvon CCI to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Carnarvon CCI on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Carnarvon CCI a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Carnarvon CCI advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Carnarvon CCI 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Carnarvon CCI a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Carnarvon CCI is appropriate and adapted to the nature of interests of Carnarvon CCI:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Carnarvon CCI of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Carnarvon CCI did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Carnarvon CCI's functions, interests or activities.

4.10.3 Exmouth Chamber of Commerce and Industry (Exmouth CCI)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Exmouth CCI advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Exmouth CCI for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Exmouth CCI sufficient information to allow Exmouth CCI to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Exmouth CCI on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Exmouth CCI a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Exmouth CCI advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Exmouth CCI 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Exmouth CCI a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Exmouth CCI is appropriate and adapted to the nature of interests of Exmouth CCI:

- On 13 March 2025, Woodside presented to the Exmouth CLG on EP consultation requirements and Woodside activities, including activities for this EP and Exmouth CCI on was in attendance.
- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Exmouth CCI of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Exmouth CCI did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Exmouth CCI's functions, interests or activities.

4.10.4 Karratha and Districts Chamber of Commerce and Industry (Karratha DCCI)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Karratha DCCI advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Karratha DCCI for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Karratha DCCI sufficient information to allow Karratha DCCI to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Karratha DCCI on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Karratha DCCI a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Karratha DCCI advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Karratha DCCI 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed Karratha DCCI a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Karratha DCCI is appropriate and adapted to the nature of interests of Karratha DCCI:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- From 6 April – 16 May 2025, Woodside hosted information stalls at a number of community events in the Pilbara region, including the Dampier Beachside Markets and Red Earth Arts Festival (REAF) to raise awareness of the EP and provide another opportunity for feedback. These events were promoted in local newspapers and on social media.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Karratha DCCI of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Karratha DCCI did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Karratha DCCI's functions, interests or activities.

4.10.5 Melville Cockburn Chamber of Commerce and Industry (CCI)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Melville Cockburn CCI advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate,	No additional measures or controls are required.

		Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Melville Cockburn CCI for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Melville Cockburn CCI sufficient information to allow Melville Cockburn CCI to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Melville Cockburn CCI on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Melville Cockburn CCI a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Melville Cockburn CCI advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Melville Cockburn CCI 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Melville Cockburn CCI a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Melville Cockburn CCI is appropriate and adapted to the nature of interests of Melville Cockburn CCI:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.

- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Melville Cockburn CCI of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Melville Cockburn CCI did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Melville Cockburn CCI's functions, interests or activities.

4.10.6 Onslow Chamber of Commerce and Industry (Onslow CCI)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Onslow CCI advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Onslow CCI for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Onslow CCI sufficient information to allow Onslow CCI to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Onslow CCI on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Onslow CCI a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Onslow CCI advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Onslow CCI 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Onslow CCI a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Onslow CCI is appropriate and adapted to the nature of interests of Onslow CCI:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Onslow CCI of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Onslow CCI did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Onslow CCI's functions, interests or activities.

4.10.7 Exmouth Community Liaison Group (Exmouth CLG)

Summary of information provided and record of consultation for this EP:

- On 13 March 2025, Woodside presented to the Exmouth CLG on EP consultation requirements and Woodside activities, including activities for this EP (SI Report A, reference 12.1).
- Woodside presented slides on how it consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBAs. Slides on upcoming EP's were presented to the group including one on the activities for this EP.
  - The slides included a QR code and a URL for the Consultation Activities page of the Woodside website. Copies of the latest edition of *Let's Talk* were provided in hard copy and sent electronically with the minutes and slide pack.
  - 7 individuals attended the meeting representing:
    - Shire of Exmouth
    - Gascoyne Development Commission
    - Exmouth Chamber of Commerce and Industry
    - Australia's Coral Coast/Regional Development Authority
    - Exmouth community
    - PHI Helicopters
    - Santos.
- On 7 April 2025, Woodside emailed Exmouth CLG advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 22 April 2025, Woodside's presentation was emailed to the CLG members, regardless of their attendance at the meeting.
- On 30 April 2025 as no response to consultation information for this EP had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- On 26 June, Woodside presented to Exmouth CLG on EP consultation requirements and Woodside activities, including activities for this EP. (SI Report A, Reference 12.2)
- Woodside presented slides on how it consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBAs and the Okha FPSO Facility Operations EP was included on a slide featuring EPs previously discussed in March.
- The slides included a QR code and a URL for the Consultation Activities page of the Woodside website.
- 7 individuals attended the meeting representing:
  - Shire of Exmouth
  - Exmouth Chamber of Commerce and Industry
  - Australia's Coral Coast/Regional Development Authority
  - PHI Helicopters

- Local councillor
- St John Exmouth Subcentre
- Exmouth Freight and Logistics
- Santos

- No feedback was provided for this EP.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Exmouth CLG for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Exmouth CLG sufficient information to allow Exmouth CLG to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Exmouth CLG on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Exmouth CLG a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Exmouth CLG advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Exmouth CLG 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Exmouth CLG a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Exmouth CLG is appropriate and adapted to the nature of interests of Exmouth CLG:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Exmouth CLG of the opportunity to provide feedback.
- Woodside hosted CLG meetings on 13 March 2025 and 26 June 2025 which included consultation information.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Exmouth CLG did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Exmouth CLG's functions, interests or activities.

4.10.8 Karratha Community Liaison Group (Karratha CLG)

Summary of information provided and record of consultation for this EP:

- On 20 March 2025, Woodside presented to the Karratha CLG on EP consultation requirements and Woodside activities, including activities for this EP (SI Report A, reference 13.1).
- Woodside presented slides on how it consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBAs. Slides on upcoming EP's were presented to the group including one on activities for this EP.
  - The slides included a QR code and a URL for the Consultation Activities page of the Woodside website. Copies of the latest edition of *Let's Talk* were provided in hard copy and sent electronically with the minutes and slide pack.

  - 8 CLG members attended the meeting representing:
    - City of Karratha – staff representatives
    - Murujuga Aboriginal Corporation
    - Regional Development Australia Pilbara
    - Karratha and Districts Chamber of Commerce and Industry
    - Department of Education
    - Development WA
    - Dampier Community Association.
- On 7 April 2025, Woodside emailed Karratha CLG advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025 as no response to consultation information for this EP had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).
- On 20 June 2025, Woodside presented to the Karratha CLG on EP consultation requirements and Woodside activities, including activities for this EP (SI Report A, reference 13.2).
- Woodside presented slides on how it consults relevant persons in the course of preparing EPs and provided information on relevant persons and EMBAs. Slides on upcoming EP's were presented to the group including one on activities for this EP.
  - The slides included a QR code and a URL for the Consultation Activities page of the Woodside website. Copies of the latest edition of *Let's Talk* were provided in hard copy and sent electronically with the minutes and slide pack.
    - 9 CLG members attended the meeting representing:
      - City of Karratha
      - Department of Education
      - Murujuga Aboriginal Corporation
      - Department of Communities
      - Development WA
      - Dampier Community Association
      - Karratha Central Healthcare
      - Karratha & Districts Chamber of Commerce and Industry
      - Community member
  - No feedback was provided for this EP.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Karratha CLG for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Karratha CLG sufficient information to allow Karratha CLG to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Karratha CLG on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Karratha CLG a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Karratha CLG advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Karratha CLG 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed Karratha CLG a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Karratha CLG is appropriate and adapted to the nature of interests of Karratha CLG:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- From 6 April – 16 May 2025, Woodside hosted information stalls at a number of community events in the Pilbara region, including the Dampier Beachside Markets and Red Earth Arts Festival (REAF) to raise awareness of the EP and provide another opportunity for feedback. These events were promoted in local newspapers and on social media.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Karratha CLG of the opportunity to provide feedback.
- Woodside hosted Karratha CLG meetings on 20 March 2025 and 20 June 2025 which included consultation information for this EP.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Karratha CLG did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Karratha CLG's functions, interests or activities.

4.10.9 City of Greater Geraldton

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the City of Greater Geraldton advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

		Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with City of Greater Geraldton for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given City of Greater Geraldton sufficient information to allow City of Greater Geraldton to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to City of Greater Geraldton on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed City of Greater Geraldton a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to City of Greater Geraldton advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed City of Greater Geraldton 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed City of Greater Geraldton a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with City of Greater Geraldton is appropriate and adapted to the nature of interests of City of Greater Geraldton:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding City of Greater Geraldton of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as City of Greater Geraldton did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on City of Greater Geraldton's functions, interests or activities.

4.10.10 City of Cockburn

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the City of Cockburn advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email. (Record of Consultation, reference 6.2.1)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with City of Cockburn for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given City of Cockburn sufficient information to allow City of Cockburn to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to City of Cockburn on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed City of Cockburn a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to City of Cockburn advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed City of Cockburn 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed City of Cockburn a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with City of Cockburn is appropriate and adapted to the nature of interests of City of Cockburn:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding City of Cockburn of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as City of Cockburn did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on City of Cockburn's functions, interests or activities.

4.10.11 City of Karratha

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the City of Karratha advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email. (Record of Consultation, reference 6.2.1)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with City of Karratha for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given City of Karratha sufficient information to allow City of Karratha to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to City of Karratha on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed City of Karratha a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to City of Karratha advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed City of Karratha 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed City of Karratha a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with City of Karratha is appropriate and adapted to the nature of interests of City of Karratha:

- On 20 March 2025, Woodside presented to the Karratha CLG on EP consultation requirements and Woodside activities, including activities for this EP and City of Karratha was in attendance.
- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- From 6 April – 16 May 2025, Woodside hosted information stalls at a number of community events in the Pilbara region, including the Dampier Beachside Markets and Red Earth Arts Festival (REAF) to raise awareness of the EP and provide another opportunity for feedback. These events were promoted in local newspapers and on social media.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding City of Karratha of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as City of Karratha did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on City of Karratha's functions, interests or activities.

4.10.12 Shire of Ashburton

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Shire of Ashburton advising of the proposed activity (Record of Consultation, reference 6.1.23, provided a Consultation Information Sheet, and a link to NOPSEMA's brochure *'Consultation on offshore petroleum environment plans: Information for the community'*.
- On 30 April 2025, Woodside sent a follow-up consultation email as no response had been received. (Record of Consultation, reference 6.2.1)
- On 1 May 2025, Shire of Ashburton acknowledged receiving the Okha FPSO Facility Operations EP and appreciated opportunity to provide input (SI Report A, reference 21.1) including:
  - **(1)** Proposed activities don't encroach with Shire mainland but several of its islands could be impacted by an adverse event.
  - **(2)** Urged Woodside to use highest standards and industry best practices to manage and mitigate risks.
    - Noted the Okha consultation information sheet outlined Woodside's measures to prevent and mitigate environmental risks and encouraged continued transparency in the following:
      - Measures to prevent unplanned hydrocarbon releases and mitigate potential spills, especially in sensitive ecological areas.
      - Effectiveness of plans to reduce disruptions to marine fauna, especially those in Biologically Important Areas (BIAs)
      - Safeguards beyond regulatory compliance to protect marine and coastal ecosystems.
      - How Woodside schedules activities during key natural marina fauna cycles such as turtle nesting (November to March) and whale shark migration (July – November) to achieve ALARP impacts when vessels operations may intersect with cycles.
      - Steps taken when there is unavoidable impact between vessel movements and marina fauna cycles.
  - Noted the Shire appreciates Woodside's recognition of Aboriginal and Torres Straight Islands Peoples and recommended:
    - **(3)** Engagement with local Indigenous groups to ensure values and heritage considerations are made.
    - **(4)** Involve Traditional Owners and community with monitoring programs to assess long-term environmental impacts of operations.
  - Requested clarity on the following to support environmental compliance and community confidence:
    - **(5)** Public access to environmental performance reports
    - **(6)** How public can engage with Woodside to address concerns
    - **(7)** Woodside communication with emergency management agencies from local to federal level about potential activity risks and hazards, risk mitigation collaboration, consideration of impacted area' response abilities and sustainability of response activities and escalation triggers.
- On 4 June, Woodside thanked Shire of Ashburton for its feedback (SI Report A, reference 21.2) and:
  - (1) Acknowledged feedback related to environmental impacts and potential effects on the Shire's functions, interests or activities.
  - (2) Covered points related to environment management and risk mitigation, noting:
    - Okha FPSO Facility has been in operation since 2011 and commitment to management and mitigation efforts of planned and unplanned impacts and risks.
    - Confirmation of continued transparency and will manage and mitigate potential risks as outlined in the Consultation Information Sheet which will be expanded on in the EP and made public upon submission to NOPSEMA.

- If Shire has specific questions or concerns related to risks, Woodside is available to discuss.

– **(3)** Confirmed Woodside uses the Department of Planning, Land and Heritage Aboriginal Cultural Heritage Inquiry System (ACHIS) as part of EP Development to identify locations and information about known heritage sites in Western Australia.
  - Noted its commitment to ongoing engagement and support of Traditional Custodians' capacity to care and manage country, including Sea County.
  - Sought feedback from 23 Traditional Owner groups about cultural values and heritage for the Okha EP.

– **(4)** Noted it supports measures to increase capability and capacity of Traditional Custodian groups for ongoing protection of country, including social investment in ranger programs and Indigenous oil spill response capability.

– **(5)** Confirmed Woodside reports on environmental performance annually in Annual Report and corporate website, noting 2024 report contains an overview on pages 63-68.

– **(6)** Provided the channels for the public to raise concerns including online form, email and phone call.

– **(7)** Noted that Woodside consults with relevant jurisdictional authorities and controlling agencies, including the Western Australian Department of Transport (DoT), the Australian Maritime Safety Agency (AMSA) and, in some cases, relevant port authorities, while revising the EP, to verify and update appropriate mitigation and management measures to include for the activity. Other relevant external management agencies may be included to inform emergency management plans.
  - Confirmed the Oil Pollution First Strike Plan (FSP) also includes notifying agencies including NOPSEMA, the Department of Climate Change, Energy, the Environment and Water (DCCEEW), the WA Department of Primary Industries and Regional Development (DPIRD), the Director of National Parks (DNP), and the WA Department of Biodiversity, Conservation and Attractions (DBCA) as well as for relevant Shires where applicable.
  - Included a summary of immediate actions to be taken in the event of an emergency event.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
(1) Several islands in the Shire's jurisdiction could be impacted by adverse event.	**(1)** Woodside acknowledges that the Shire's jurisdiction falls within the EMBA.	**(1)** Woodside acknowledged the environmental impacts and potential effects on the Shire's functions, interests or activities.	**(1)** Not required.
(2) Encouraged Woodside to use highest standards to counter risk, noted the Consultation information Sheet (CIS) covered risk mitigation and requested continued transparency.	**(2)** Woodside understands the importance of ongoing transparency and that the CIS outlines how it will manage and mitigate potential risks, and these will be expanded on in the EP.	**(2)** Woodside confirmed continued transparency. It will manage and mitigate potential risks as outlined in the CIS which will be expanded on in the EP and made public upon submission to NOPSEMA. It offered more information, if the Shire requested.	**(2)** Environmental impact and risk assessment and evaluation found in Section 6 of this EP. Implementation strategy to manage risks and impacts to ALARP found in Section 7.

(3) Noted importance of Indigenous group engagement for values and heritage consideration.	**(3)** Woodside is committed to ongoing engagement with and support of Traditional Custodian groups.	**(3)** Woodside consulted with 23 Traditional Owner Groups about cultural values and heritage for the Okha EP.	**(3)** Summary of cultural features and heritage values is recorded in Table 4-20 of this EP. Summary of feedback received during consultation to inform existing environment description is recorded in Table 4-19.
(4) Recommended Traditional Owner and community involvement with environmental monitoring programs.	**(4)** Woodside supports measures to increase Traditional Custodian groups' capability and capacity to protect Country.	**(4)** Woodside provided examples including social investment in ranger programs and Indigenous oil spill response capability.	**(4)** Not required.
(5) Requested how people can access environmental performance reports.	**(5)** Woodside understands the importance of environmental reporting.	**(5)** Woodside confirmed that it provided environmental performance information annually via its annual report and on corporate website.	**(5)** Not required.
(6) Queried how people can address concerns with Woodside.	**(6)** Woodside recognises the importance of people being able to address potential concerns and provide feedback.	**(6)** Woodside confirmed that people could address concerns through website online form, by email or phone call.	**(6)** Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).
(7) Requested continued clarity on communication with emergency management agencies from local to federal level.	**(7)** Woodside's Oil Pollution First Strike Plan (FSP) includes information about relevant authorities and controlling agencies which are consulted with during development of the EP and who is notified in the event of an emergency event.	**(7)** Woodside provided information on the relevant authorities and controlling agencies who are contacted during the EP revision process and referred to its FSP as well as noted a summary of actions to be taken in the case of an emergency event.	**(7)** See Appendix H (Oil Pollution First Strike) of the EP.

While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should further feedback be received, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional controls or measures are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Shire of Ashburton for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Shire of Ashburton sufficient information to allow Shire of Ashburton to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Shire of Ashburton on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).
- On 1 May 2025, Shire of Ashburton shared its feedback, claims or objections regarding this activity, indicating the information provided was sufficient to enable Shire of Ashburton to make an informed assessment of the possible consequences of the activity on its functions, interests or activities.
- In addition to the information in the Consultation Information Sheet, Woodside provided additional information to Shire of Ashburton in response to Shire of Ashburton's feedback (email of 1 May 2025).

Reasonable Period

Woodside allowed Shire of Ashburton a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Shire of Ashburton advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Shire of Ashburton 30 days for consultation.

- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Shire of Ashburton a reasonable period for consultation in preparation of the EP as evidenced by Shire of Ashburton's response on 1 May 2025.

Reasonable Opportunity

Woodside allowed Shire of Ashburton a reasonable opportunity for consultation in the preparation of this EP because:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside considers a reasonable opportunity was provided to Shire of Ashburton as evidenced by its response on 1 May 2025.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Shire of Ashburton provided feedback but no objections or claims. In line with the intended outcome of consultation as set out in Section 5.2 and Regulations 24 and 34(g), Woodside has:
  - Responded to feedback from Shire of Ashburton.
  - Made no changes or inclusions to the EP as a result of consultation with Shire of Ashburton because appropriate measures are already included in the EP.

Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

4.10.13 Shire of Broome

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Shire of Broome advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate,	No additional measures or controls are required.

		Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Shire of Broome for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Shire of Broome sufficient information to allow Shire of Broome to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Shire of Broome on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Shire of Broome a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Shire of Broome advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Shire of Broome 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Shire of Broome a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Shire of Broome is appropriate and adapted to the nature of interests of Shire of Broome:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.

- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Shire of Broome of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Shire of Broome did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Shire of Broome's functions, interests or activities.

4.10.14 Shire of Carnarvon

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Shire of Carnarvon advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Shire of Carnarvon for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Shire of Carnarvon sufficient information to allow Shire of Carnarvon to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Shire of Carnarvon on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Shire of Carnarvon a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Shire of Carnarvon advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Shire of Carnarvon 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Shire of Carnarvon a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Shire of Carnarvon is appropriate and adapted to the nature of interests of Shire of Carnarvon:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Shire of Carnarvon of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Shire of Carnarvon did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Shire of Carnarvon's functions, interests or activities.

4.10.15 Shire of Exmouth

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Shire of Exmouth advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Shire of Exmouth for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Shire of Exmouth sufficient information to allow Shire of Exmouth to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Shire of Exmouth on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Shire of Exmouth a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Shire of Exmouth advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Shire of Exmouth 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Shire of Exmouth a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Shire of Exmouth is appropriate and adapted to the nature of interests of Shire of Exmouth:

- On 13 March 2025, Woodside presented to the Exmouth CLG on EP consultation requirements and Woodside activities, including activities for this EP, and Shire of Exmouth was in attendance.
- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Shire of Exmouth of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Shire of Exmouth did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Shire of Exmouth's functions, interests or activities.

4.10.16 Shire of Shark Bay

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Shire of Shark Bay advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Shire of Shark Bay for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Shire of Shark Bay sufficient information to allow Shire of Shark Bay to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Shire of Shark Bay on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Shire of Shark Bay a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Shire of Shark Bay advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Shire of Shark Bay 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed Shire of Shark Bay a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Shire of Shark Bay is appropriate and adapted to the nature of interests of Shire of Shark Bay:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Shire of Shark Bay of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Shire of Shark Bay did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Shire of Shark Bay's functions, interests or activities.

4.11 Other non-government groups or organisations (NGOs) or individuals

4.11.1 Friends of Australian Rock Art, Inc. (FARA)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed FARA advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with FARA for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given FARA sufficient information to allow FARA to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to FARA on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed FARA a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to FARA advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed FARA 30 days for consultation.
- Consultation for this EP commenced 3 months ago.

- In this context, Woodside allowed FARA a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with FARA is appropriate and adapted to the nature of interests of FARA:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding FARA of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as FARA did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on FARA's functions, interests or activities.

4.12 Research institutes and local conservation groups or organisations

4.12.1 Cape Conservation Group (CCG)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Cape Conservation Group (CCG) advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the	No additional measures or controls are required.

		EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with CCG for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given CCG sufficient information to allow CCG to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to CCG on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed CCG a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to CCG advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed CCG 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed CCG a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with CCG is appropriate and adapted to the nature of interests of CCG:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding CCG of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as CCG did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on CCG's functions, interests or activities.

4.12.2 Protect Ningaloo

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed the Protect Ningaloo advising of the proposed activity (Record of Consultation, reference 6.1.7, provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.
Summary Report – Consultation Complete			

Woodside has discharged its obligations for consultation under regulation 25 of the Environment Regulations and considers consultation with Protect Ningaloo for the purpose of regulation 25 complete. Sufficient information, a reasonable period and a reasonable opportunity have been provided, as described in Section 5.4 of the EP and further summarised in the Consultation Approach above. Specifically:

Sufficient Information

Woodside has given Protect Ningaloo sufficient information to allow Protect Ningaloo to make an informed assessment of the possible consequences of the activity on its functions, interests or activities because:

- The Consultation Information Sheet for this EP has been publicly available on the Woodside website since April 2025. Woodside gave this information to Protect Ningaloo on 7 April 2025, marking the commencement of consultation on this EP. The Consultation Information Sheet included:
  - The purpose of consultation and set out what was being sought through consultation.
  - A summary of the activity description, location of the activity, timing of the activity, receiving environment, impacts and risks associated with the PAP, and proposed mitigation and management measures.
  - A timeframe for consultation and the provision of feedback.
  - A link to NOPSEMA's brochure '*Consultation on offshore petroleum environment plans*'.
  - Advice that relevant persons can request that particular information provided during consultation not be published (to align with 25(4) of the Environment Regulations).

Reasonable Period

Woodside allowed Protect Ningaloo a reasonable period for consultation in the preparation of this EP because:

- A consultation period was stated in the initial correspondence to Protect Ningaloo advising of consultation as well as when consultation closed for the purposes of the preparation of the EP. This enabled Woodside to assess feedback before EP submission.
- Woodside's methodology allows a 30-day consultation period and Woodside allowed Protect Ningaloo 30 days for consultation.
- Consultation for this EP commenced 3 months ago.
- In this context, Woodside allowed Protect Ningaloo a reasonable period for consultation in preparation of the EP.

Reasonable Opportunity

A reasonable opportunity to provide feedback has been provided because Woodside's approach to consultation with Protect Ningaloo is appropriate and adapted to the nature of interests of Protect Ningaloo:

- Woodside published advertisements in 9 national, state, and relevant local newspapers (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- Woodside ran a targeted social media campaign (see Consultation Activities). This allowed for broad awareness of the activity under the EP and also of consultation.
- In the absence of feedback, Woodside sent a follow-up consultation email on 30 April 2025, reminding Protect Ningaloo of the opportunity to provide feedback.

Outcomes of Consultation

Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24. The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- No additional measures were considered as a result of consultation as Protect Ningaloo did not provide feedback for this EP.
- Woodside will continue to accept and assess feedback throughout the life of the EP and apply its Management of Change and Revision process when applicable.

The measures and controls described in this EP address the potential impact from the proposed activity on Protect Ningaloo's functions, interests or activities.

4.13 Traditional custodians and nominated representative corporations

4.13.1 Buurabalayji Thalanyji Aboriginal Corporation (BTAC)

BTAC is established under the *Native Title Act 1993 (Cth)* by the Thalanyji people to represent the Thalanyji people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Woodside has an existing relationship with BTAC which extends prior to consultation for this EP. Woodside's consultation approach for Traditional Owners has a focus on building and maintaining long-term relationships with each group. Woodside also has assigned a First Nations Engagement team member as a dedicated focal person for EP consultation with BTAC, who is responsible for building a consultative relationship and is readily available to provide information and take feedback.

At the start of consultation, Woodside provided BTAC a table of cultural values previously identified for BTAC through consultation and reviews of publicly available literature. Woodside invited BTAC to make changes or provide additional information about these cultural values. BTAC did not request changes. This context and process demonstrates that Woodside's consultation approach with BTAC is appropriate and adapted to the nature and interests of BTAC.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed BTAC advising of the proposed activity (Record of Consultation, reference 6.1.28), which included the activity's Summary Information Sheet and Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that BTAC has previously provided to Woodside considered relevant to the activity:
    - **(1)** BTAC's cultural obligation to care for the environmental values of Sea Country, such as archaeological sites identified on nearshore islands including the Montebello Islands, Barrow Island and Mackerel Islands.
  - **(1)** A request from Woodside that BTAC confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how BTAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.

- That feedback can continue to be accepted by Woodside during the life of the EP.
- A request for BTAC to provide information about the proposed activity to other individuals, as required.
- Acknowledgement that discussions relating to Woodside's framework agreement has been ongoing and that these discussions will progress in parallel with consultation for the proposed activity's EP.

- On 28 April 2025, Woodside emailed BTAC a reminder about the proposed activity (SI Report B, reference 1.1). The email included:
  - A reference to the original consultation email for this EP sent to BTAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet and listed cultural values previously provided by BTAC to Woodside.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how BTAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Woodside's commitment to managing gender-restricted or other culturally sensitive information.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- On 28 April 2025, Woodside emailed BTAC a missing attachment from its earlier email (SI Report B, reference 1.2).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Values: Sea Country – connection to, access to and transfer of knowledge: • Enduring deep connection north of Onslow, extending out to Islands off the Pilbara coast including the Montebello, Barrow and Mackerel Islands. • Cultural obligation to care for environment and values of Sea Country. • Resources including fish, shellfish, crabs, crustaceans, sea urchins, eggs, turtles, dugongs, flora and	**(1)** This value has been identified through Woodside's data collection processes (consultation and reviews of publicly available literature).	**(1)** At the beginning of consultation for this EP, Woodside invited BTAC to make changes or provide additional information about these cultural values (ROC, 6.1.28). BTAC did not request changes.	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls in Sections 6.6 and 6.7.

fauna associated with mangrove communities. • Artefacts and burials in coastal sand dunes. • Archaeological sites on Barrow and Montebello Islands. • Archaeological evidence of use of resources including fish, turtles, marine mammals, crocodiles, crabs and sea urchins. • Ceremonial sites (Thalu) for the increase of turtle, shark, ray, fish, squid, octopus, hill kangaroo and emu.			
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation and/ or literature review.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.
Summary Report – Consultation Complete			
Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with BTAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically: **Sufficient Information** Sufficient information has been provided because: • Woodside has provided BTAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters. • In April 2025, Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website. • On 7 April 2025, Woodside commenced consultation with BTAC on this EP. Woodside provided BTAC: – A Summary Information Sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:			

  - An overview of the activity and proposed timing.
  - Maps showing the location and EMBA.
  - A summary of the risks and impacts of the activity.
  - Diagrams.
  - Details about how to provide feedback.
- The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of BTAC's interests and how the activity could impact those interests.
- That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
- Woodside asked BTAC to forward the information to its members.
- Woodside offered to provide more specific information, maps and images to BTAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with BTAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and BTAC have consulted for three months, demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to BTAC during Woodside's initial email on 7 April 2025. BTAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to accept feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for BTAC's input into how BTAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with BTAC members as well as the BTAC Board.
  - Asked BTAC to advise how it would like Woodside to engage and whether BTAC required further information.
  - Asked BTAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- BTAC did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated BTAC's interests and cultural values in Section 4.9.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.2 Gogolanyngor Aboriginal Corporation (GAC)

GAC is established under the *Native Title Act 1993 (Cth)* by the Jabirr Jabirr/Ngumbarl and Bindunbur people to represent the Jabirr Jabirr/Ngumbarl and Bindunbur people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Prior to consultation for this EP, Woodside was informed that GAC had a new chairperson.

Summary of information provided and record of consultation for this EP:

- On 3 April 2025, Woodside met GAC in Broome and provided to GAC a printed copy of an email advising of the proposed activity (Record of Consultation, reference 6.1.29), and a copy of the activity's Summary Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A link to the Consultation Information Sheet.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how GAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside during the life of the EP.
  - A request for GAC to provide information about the proposed activity to other individuals, as required.
- During the 3 April 2025 meeting (SI Report B, reference 2.1). These relevant matters were discussed:
  - **(1)** Possibility of activities causing vibrations in the water. **(1)** Woodside explained the seismic testing process (not being used for this activity) and what measures are in place to mitigate the impact on marine animals.
  - **(2)** GAC stated that funding for ranger programs was difficult to access. **(2)** Woodside provided information about ranger funding.
- On 8 April 2025, Woodside emailed GAC a digital copy of information provided in print during a meeting on 3 April 2025 (SI Report B, reference 2.2).
- On 28 April 2025, Woodside emailed GAC a reminder about the proposed activity (SI Report B, reference 2.3). The email included:

- A reference to the original consultation email for this EP sent to GAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
- A reminder that consultation for the preparation of this EP closes on 16 May 2025.
- A request for information on how GAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
- Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- Woodside suggested meeting to discuss an unrelated project.

- **(2)** On 7 May 2025, Woodside visited GAC's office and provided an update on a ranger funding proposal (SI Report B, reference 2.4).
- **(2)** On 20 May 2025, Woodside called GAC and provided information about ranger funding available from a Commonwealth government agency (SI Report B, reference 2.5).
- On 30 May 2025, Woodside visited the GAC office however it was closed (SI Report B, reference 2.6).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) GAC enquired about the possibility of activities causing vibrations in the water.	**(1)** There is no seismic testing in this EP. Support vessels may generate some noise.	**(1)** During a meeting on 3 April 2025, Woodside explained what measures are in place to mitigate the impact of noise on marine animals.	**(1)** While this EP does not include seismic activity, risk and mitigation measures for all relevant sound sources are in Section 6.6.3 of the EP.
(2) GAC stated that funding for ranger programs was difficult to access.	**(2)** Woodside sees the value of groups having ranger programs.	**(2)** Woodside is in the process of developing a ranger funding program. GAC's request will be evaluated in accordance with the program's criteria upon its implementation. Woodside has provided ranger information to GAC.	**(2)** No action required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its	Based on the engagement to date, no additional measures or controls are required.

		Management of Change and Revision process (see Section 7.2.8 of this EP).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with GAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided GAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 3 April 2025, Woodside commenced consultation with GAC on this EP. Woodside met GAC in Broome and provided:
  - A Summary Information Sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of GAC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked GAC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to GAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with GAC on 3 April 2025 and provided information on the EP on that date. Since then, Woodside and GAC have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to GAC during Woodside's initial meeting on 3 April 2025. GAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for GAC's input into how GAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside provided GAC with information about this EP on 3 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with GAC members, as well as the GAC Board.
  - Asked GAC to advise how it would like Woodside to engage and whether GAC required further information.
  - Asked GAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- GAC did not provide feedback or information about cultural values during consultation for this EP.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.3 Karajarri Traditional Lands Association (KTLA) (Aboriginal Corporation)

KTLA is established under the *Native Title Act 1993 (Cth)* by the Karajarri people to represent the Karajarri people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed KTLA advising of the proposed activity (Record of Consultation, reference 6.1.30), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how KTLA would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.

- That feedback can continue to be accepted by Woodside for the life of the EP.
- A request for KTLA to provide information about the proposed activity to other individuals, as required.

- On 28 April 2025, Woodside emailed KTLA a reminder about the proposed activity (SI Report B, reference 3.1). The email included:
  - A reference to the original consultation email for this EP sent to KTLA on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how KTLA would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP.	Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with KTLA for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided KTLA with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with KTLA on this EP. Woodside provided KTLA:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.

    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of KTLA's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked KTLA to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to KTLA, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with KTLA on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and KTLA have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to KTLA during Woodside's initial email on 7 April 2025. KTLA was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for KTLA's input into how KTLA would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with KTLA members as well as the KTLA Board.
  - Asked KTLA to advise how it would like Woodside to engage and whether KTLA required further information.
  - Asked KTLA if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- KTLA did not provide feedback or information during consultation for this EP.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.4 Kariyarra Aboriginal Corporation (KAC)

KAC is established under the *Native Title Act 1993 (Cth)* by Kariyarra people to represent the Kariyarra people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

At the start of consultation, Woodside provided KAC a table of cultural values previously identified through consultation and reviews of publicly available literature. Woodside invited KAC to make changes or provide additional information about these cultural values. KAC did not request changes about these specific values but did make Woodside aware of additional ones.

When Woodside met with KAC in person for this and another EP, Woodside noted that KAC has engaged a new legal representative who led aspects of the in-person consultation. During this meeting, KAC confirmed it would like to enter a Consultation Agreement. Woodside understands that an agreement like this is useful to outline consultation norms for KAC. However, these discussions occur in parallel to consultation for EPs. This context and process demonstrates that Woodside's consultation approach with KAC is appropriate and adapted to the nature and interests of KAC.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed KAC advising of the proposed activity (Record of Consultation, reference 6.1.31), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA consultation brochure, guidelines, draft policy for managing gender-restricted information, and contact details.
  - Information on the cultural values that KAC has previously provided to Woodside considered relevant to the activity:
    - **(1)** Marine Animals – management of sea turtle nesting, impacts to whale migration (whales are connected to Songlines).
    - **(2)** Sea Country – cultural obligations to care for Country, Secret habitat totems, access required for fishing, trapping, crabbing, catching turtle, hunting dugong, using stingray barbs for spears, collecting shellfish and visiting offshore islands at low tide.
    - **(3)** Yinta – significant cultural/spiritual sites, cultural rights to land.
    - **(4)** Marine species as resources – marine mammals, fish, molluscs.
    - **(5)** Potential impacts on coastal landforms and vegetation.
    - **(6)** Heritage sites associated with the coast and ocean including the presence of mythical snakes.
    - **(7)** Transfer of knowledge to future generations – impacts of species reduction and temporary exclusion to areas in the case of an oil spill etc.
  - **(1, 2, 3, 4, 5, 6, 7)** A request from Woodside that KAC confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how KAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.

  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for KAC to provide information about the proposed activity to other individuals, as required.
- On 10 April 2025, Woodside sent KAC an email (SI Report B, reference 4.1) requesting a quote for a consultation meeting scheduled for 30 April 2025. This meeting had been arranged prior to consultation beginning for this EP.
- On 16 April 2025, KAC emailed Woodside a budget for the meeting scheduled for 30 April 2025 (SI Report B, reference 4.2).
- On 28 April 2025, Woodside emailed KAC to confirm details for the meeting on 30 April 2025 to discuss this EP and another (SI Report B, reference 4.3). Woodside reminded KAC of the consultation closing date for this EP.
- On 29 April 2025, Woodside emailed KAC the presentation Woodside intended to present at the meeting scheduled for 30 April 2025. (SI Report B, reference 4.4)
- On 30 April 2025, Woodside met KAC in Port Hedland (SI Report B, reference 4.5). Matters discussed relating to this EP include:
  - Woodside explained EPs, consultation processes and EMBAs.
  - **(8)** KAC said it did not consider the meeting to be consultation. **(8)** Woodside stated that the meeting would be considered consultation and offered to conduct further consultation if KAC required further information.
  - Woodside presented cultural values that KAC had previously provided.
  - **(9)** KAC sought clarity of impacts to the health of food sources and other marine life including whether there were any diseases that could threaten sea life as a result of an adverse event. **(9)** Woodside answered questions about these issues during the meeting and offered to provide information in a written response.
  - **(10)** KAC queried the role of Traditional Owners in the event of a spill. **(10)** Woodside provided an overview on its emergency response process and how it was exploring additional training opportunities for ranger groups.
  - **(11)** KAC queried which shipping channels are used as they wanted to understand the risks associated with ships travelling closely to their determination. **(11)** Woodside took the question on notice.
  - **(12)** KAC expressed a desire to enter into a consultation agreement. **(12)** Woodside accepted this as an ongoing action noting that these discussions would not delay EP submission deadlines.
  - **(13)** KAC requested Woodside provide a copy of information it planned to input into its EPs, including environmental data prior to submission. **(13)** Woodside took this request on notice.
  - **(14)** KAC advised that the Islands off the coast of Port Hedland are extremely important to KAC (Little Turtle, North Turtle and Bedout). **(14)** Woodside advised it would note this in the EP.
  - **(15)** KAC raised concerns about historic unplanned incidents (not involving Woodside) and asked for details about improvements to processes. **(15)** Woodside explained that since these historic incidents, governments have set up regulatory bodies including NOPSEMA to regulate industry.
- On 5 May 2025, Woodside emailed KAC to confirm matters taken on notice during the 30 April 2025 meeting (SI Report B, reference 4.6). This included:
  - **(12)** KAC's desire to enter into a consultation agreement. **(12)** Woodside notes this as an ongoing action noting that these discussions occur in parallel to EP consultation.
  - **(9)** KAC sought clarity of impacts to the health of food sources and other marine life that could threaten sea life.
  - **(11)** KAC queried which shipping channels are used as it wanted to understand the risks associated with ships travelling closely to its determination.
  - **(10)** KAC queried contact points in the event of a spill.

  - **(15)** KAC raised concerns about historic unplanned incidents (not involving Woodside) and asked for details about improvements to processes.
  - **(13)** KAC requested Woodside provide a copy of information it planned to input into its EPs prior to submission.
- Between 20 and 27 May 2025, Woodside and KAC exchanged emails and met online to follow-up on matters raised during the 30 April 2025 meeting (SI Report B, references 4.7, 4.8, 4.9, 4.10).
- On 28 May 2025, Woodside and KAC spoke on the phone where the following items (SI Report B, reference 4.11), relevant to this EP were discussed:
  - KAC confirmed the accuracy of the questions taken on notice from the consultation meeting.
  - **(12)** KAC reiterated its desire to enter into a consultation agreement and requested Woodside resend the most recent consultation agreement draft for KAC to consider and respond. **(12)** Woodside noted this as an ongoing action noting that these discussions occur in parallel to EP consultation.
  - Woodside offered to host a consultation 'learning' workshop to help build an understanding of the EP consultation process.
  - Woodside noted a commitment to provide a formal response to KAC by the end of May.
- On 3 June 2025, Woodside emailed KAC responses to questions raised during their meeting on 30 April 2025 (SI Report B, reference 4.12). Responses included:
  - **(8)** Woodside clarified that its meeting on 30 April 2025 formed part of consultation with KAC on this EP and another.
  - **(12)** Woodside noted that it had provided KAC with a draft consultation agreement in February 2024 and that discussions about this agreement had occurred in parallel to consultation for this EP and another.
  - **(9)** Woodside acknowledged KAC's connection to Sea Country and provided details about risks and mitigation measures in both EPs that related to the ecological integrity of marine fauna.
  - **(10)** Woodside provided information about contact procedures in the highly unlikely event of a spill.
  - **(11)** Woodside provided information about shipping channels, that ships were sometimes required to travel from Dampier to the operational area of both EPs.
  - **(13)** Woodside provided details of material that would be included in the EPs and links to the in-force EP's on NOPSEMA's website.
  - **(14)** Woodside acknowledged that islands off Port Hedland are culturally important to KAC - Little Turtle, North Turtle and Bedout. This information would be recorded in the EPs.
  - **(15)** Woodside provided information about two historic incidents not related to Woodside that had been raised by KAC in the 30 April meeting. Woodside explained the role of NOPSEMA and that it took a robust and systematic approach to the environmental management of petroleum activities.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Value: Marine Animals • Management of sea turtle nesting.	**(1)** This value has been identified through Woodside's data collection processes (consultation).	**(1)** At the beginning of consultation for this EP, Woodside invited KAC to make changes or provide additional information about this cultural value (See ROC, 6.1.31). KAC did not request changes.	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values. Whale migration and turtle nesting has been included in Section 4.6.2 and 4.6.3 of the EP. There are no planned impacts to turtle nesting beaches given the offshore location of

• Impacts to whale migration (whales are connected to Songlines).			the Operational Area. Controls have been adopted where appropriate in Sections 6.6 the EP to manage impacts from planned activities to marine species. Section 6.7 includes controls relating to unplanned events (e.g. hydrocarbon spills).
(2) Cultural Value: Sea Country • Cultural obligations to care for Country. • Secret habitat totems. • Access required for fishing, trapping, crabbing, catching turtle, hunting dugong, using stingray barbs for spears, collecting shellfish and visiting offshore islands at low tide.	**(2)** This value has been identified through Woodside's data collection processes (consultation and reviews of publicly available literature).	**(2)** At the beginning of consultation for this EP, Woodside invited KAC to make changes or provide additional information about this cultural value (See ROC, 6.1.31). KAC did not request changes.	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in in Sections 6.6 and 6.7 of the EP.
(3) Cultural Value: Yinta • Significant cultural/spiritual sites. • Cultural rights to land.	**(3)** This value has been identified through Woodside's data collection processes (consultation and reviews of publicly available literature).	**(3)** At the beginning of consultation for this EP, Woodside invited KAC to make changes or provide additional information about this cultural value (See ROC, 6.1.31). KAC did not request changes.	**(3)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(4) Cultural Value: Marine species as resources • Marine mammals. • Fish. • Molluscs.	**(4)** This value has been identified through Woodside's data collection processes (consultation).	**(4)** At the beginning of consultation for this EP, Woodside invited KAC to make changes or provide additional information about this cultural value (See ROC, 6.1.31). KAC did not request changes.	**(4)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate including controls, in Sections 6.6 and 6.7 of the EP.

(5) Cultural Value: Potential impacts on coastal landforms and vegetation.	**(5)** This value has been identified through Woodside's data collection processes (consultation).	**(5)** At the beginning of consultation for this EP, Woodside invited KAC to make changes or provide additional information about this cultural value (See ROC, 6.1.31). KAC did not request changes.	**(5)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate including controls, in Sections 6.6 and 6.7 of the EP. Coastal landforms and vegetation are not present within the Operational Area but may be contacted in the event of a large hydrocarbon spill (Section 6.7).
(6) Cultural Value: Heritage sites associated with the coast and ocean including the presence of mythical snakes.	**(6)** This value has been identified through Woodside's data collection processes (consultation and reviews of publicly available literature).	**(6)** At the beginning of consultation for this EP, Woodside invited KAC to make changes or provide additional information about this cultural value (See ROC, 6.1.31) KAC did not request changes.	**(6)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate. including controls, in Sections 6.6 and 6.7 of the EP.
(7) Cultural Value: Transfer of knowledge to future generations • Impacts of species reduction. • Temporary exclusion to areas in the case of an oil spill etc.	**(7)** This value has been identified through Woodside's data collection processes (consultation).	**(7)** At the beginning of consultation for this EP, Woodside invited KAC to make changes or provide additional information about this cultural value (See ROC, 6.1.31) KAC did not request changes.	**(7)** Woodside recorded this cultural value in section 4.9 of the EP. Measures relating to oil spills are covered in Appendix G - Oil spill Preparedness and Response and Appendix H – Oil Pollution First Strike Plan.
(8) KAC said it did not consider its meeting on 30 April 2025 to discuss this and another EP to be consultation.	**(8)** Woodside has clearly stated to KAC that consultation for this EP began on 7April 2025. Woodside has provided KAC with sufficient information, a reasonable period of time and reasonable opportunity to provide feedback.	**(8)** Woodside stated that the meeting would be considered consultation and offered to conduct further consultation if KAC required further information.	**(8)** No action required.
(9)	**(9)**	**(9)**	**(9)**

KAC sought clarity of impacts to the health of food sources and other marine life including whether there were any diseases that could threaten sea life as a result of an adverse event.	Woodside acknowledges KAC's connection to Sea Country. Woodside has identified potential impacts and risks to the ecological integrity of marine fauna and put in place mitigation measures.	Woodside has provided a written response to KAC explaining potential risks to marine life from this EP. Woodside has categorised these potential risks as highly unlikely events. Woodside has explained that clean up and remediation response activities would commence from the outset of an incident in line with Woodside's Oil Pollution First Strike Plan.	KAC's connection to Sea Country is identified in Section 4.9 of the EP. Risks and mitigation measures relating to marine life are details in Section 6. Measures relating to oil spills are covered in Appendix G - Oil spill Preparedness and Response and Appendix H – Oil Pollution First Strike Plan.
(10) KAC queried the role of Traditional Owners in the event of a spill.	**(10)** In the highly unlikely event of a spill, Woodside would enact its First Strike Plan, which includes contacting the regulator, NOPSEMA and any relevant cultural authorities that may be affected.	**(10)** Woodside provided KAC with details of its First Strike plan and contact procedures.	**(10)** Measures relating to oil spills are covered in Appendix G - Oil spill Preparedness and Response and Appendix H – Oil Pollution First Strike Plan.
(11) KAC queried which shipping channels are used as they wanted to understand the risks associated with ships travelling closely to their determination.	**(11)** Ships are sometimes required to travel from the mainland (Dampier) to the operational area of this EP.	**(11)** Woodside has informed KAC that the distance from KAC's determination to the EP operational area is 145kms. Woodside has also provided KAC with details about regulations governing vessel transport. Woodside has also provided details about its First Strike Plan.	**(11)** Vessel transit to and from the Operational Area are outside the scope of the EP (refer to Section 3.3 of the EP). As presented in Section 6.6 and Section 6.7, vessels operating within the Operational Area will adhere to a range of performance standards (e.g. adherence to Marine Orders and navigational requirements) Measures relating to oil spills are covered in Appendix G - Oil spill Preparedness and Response and Appendix H – Oil Pollution First Strike Plan.
(12) KAC expressed a desire to enter into a consultation agreement.	**(12)** Woodside provided KAC with a draft consultation agreement in February 2024.	**(12)** Woodside notes that while discussions about this agreement are ongoing, a consultation agreement is not a prerequisite for consultation, and	**(12)** No action required.

		consultation for this EP and others has occurred in parallel.	
(13) KAC requested Woodside provide a copy of information it planned to input into its EPs, including environmental data prior to submission.	**(13)** The in-force EP is available on the NOPSEMA website. The revised EP will become available on NOPSEMA's website.	**(13)** Woodside has informed KAC that the revised EP will contain records of all consultation that has occurred with KAC. This will include copies of correspondence exchanged and meeting notes. This consultation information will be summarised in Appendix F. Woodside will also provide NOPSEMA with full text copies of all consultation that has occurred in a separate document which is not available publicly. Information about cultural values will be included in the Section 4 of the EP. Woodside's risk and mitigation measures will be included in the EP.	**(13)** No action required.
(14) Islands off the coast of Port Hedland are extremely important to KAC (Little Turtle, North Turtle and Bedout).	**(14)** Woodside acknowledges that islands off Port Hedland have cultural value to KAC.	**(14)** Woodside has updated its records to reflect this and will include this information in Appendix F and Section 4.9.	**(14)** Woodside has updated App F and Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate including controls, in Sections 6.6 and 6.7 of the EP. These islands are not impacted from planned activities.
(15) KAC raised concerns about historic unplanned incidents (not involving Woodside) and asked for details about improvements to processes.	**(15)** Woodside takes a robust and systematic approach to environmental management of petroleum activities.	**(15)** Woodside explained that since these historic incidents, governments have set up regulatory bodies including NOPSEMA to oversee industry. In the unlikely event of a spill, Woodside would enact its First Strike Plan which would include contacting NOPSEMA and	**(15)** Measures relating to oil spills are covered in Appendix G - Oil spill Preparedness and Response and Appendix H – Oil Pollution First Strike Plan.

		any affected cultural authorities. Woodside has oil pollution emergency plans and implements training and capability building programs in the regions where it operates.	
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	Based on the engagement to date, no additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with BTAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided KAC with relevant consultation documents, including NOPSEMA's Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with KAC on this EP. Woodside provided KAC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of KAC's interests and how the activity could impact those interests.

- That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
- Woodside asked KAC to forward the information to its members.
- Woodside offered to provide more specific information, maps and images to KAC if required.
- Information on the cultural values that KAC has provided to Woodside previously.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with KAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and KAC have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to KAC during Woodside's initial email on 7 April 2025. KAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

- A reasonable period for consultation in the preparation of this EP has been provided because:
- Woodside asked for KAC's input into how KAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with KAC members as well as the KAC Board.
  - Asked KAC to advise how it would like Woodside to engage and whether KAC required further information.
  - Woodside asked KAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- Throughout the consultation period, Woodside and KAC have exchanged multiple emails, had phone calls and met.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- KAC has previously provided feedback in relation to its cultural values and provided additional information during consultation for this EP. Woodside has incorporated KAC's interests and cultural values in Section 4.9 and assessed potential impact on these, including controls, in Section 6.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.5 Malgana Aboriginal Corporation (Malgana)

Malgana is established under the *Native Title Act 1993 (Cth)* by the Malgana people to represent the Malgana people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values. YMAC provides Malgana with administrative assistance.

At the start of consultation, Woodside provided Malgana a table of cultural values previously identified through consultation and reviews of publicly available literature. Woodside invited Malgana to make changes or provide additional information about these cultural values. Malgana did not request changes.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Malgana (via YMAC) advising of the proposed activity (Record of Consultation, reference 6.1.32), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** Interest in Shark Bay – environment and stromatolites and microbial mats.
    - **(2)** Access to Country for resources – bird and turtle eggs, dugongs, turtle, fish including sharks, shellfish, crabs.
    - **(3)** Freshwater seeps – traditional knowledge.
    - **(4)** Cultural significant species – green sea turtles, dugongs, shags, bottlenose dolphins.
    - **(5)** Knowledge – sharing and controlling, transfer of knowledge to younger generations.
  - **(1, 2, 3, 4, 5)** A request from Woodside that Malgana confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how Malgana would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for Malgana to provide information about the proposed activity to other individuals, as required.
- On 28 April 2025, Woodside emailed Malgana (via YMAC) a reminder about the proposed activity (SI Report B, reference 5.1). The email included:
  - A reference to the original consultation email for this EP sent to Malgana (via YMAC) on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.

– A request for information on how Malgana (via YMAC) would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face. – Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.			
Summary of Feedback, Objection or Claim	**Woodside's Assessment of Merits of Feedback, Objection or Claim**	**Woodside's Response**	**Inclusion in Environment Plan**
(1) Cultural Value: Interest in Shark Bay – environment and stromatolites and microbial mats.	**(1)** This value has been identified through Woodside's data collection processes (consultation).	**(1)** At the beginning of consultation for this EP, Woodside invited Malgana to make changes or provide additional information about this cultural value (ROC, 6.1.32). Malgana did not request changes.	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(2) Cultural Value: Access to country for resources – bird and turtle eggs, dugongs, turtle, fish including sharks, shellfish, crabs.	**(2)** This value has been identified through Woodside's data collection processes (publicly available literature).	**(2)** At the beginning of consultation for this EP, Woodside invited Malgana to make changes or provide additional information about this cultural value (See ROC, 6.1.32). Malgana did not request changes.	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(3) Cultural Value: Freshwater seeps – traditional knowledge	**(3)** This value has been identified through Woodside's data collection processes (publicly available literature).	**(3)** At the beginning of consultation for this EP, Woodside invited Malgana to make changes or provide additional information about this cultural value (See ROC, 6.1.32). Malgana did not request changes.	**(3)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP. Freshwater seeps are not present in the Operational Area.
(4) Cultural Value: Cultural significant species: • Green sea turtles.	**(4)** This value has been identified through Woodside's data collection processes (publicly available literature).	**(4)** At the beginning of consultation for this EP, Woodside invited Malgana to make changes or provide additional	**(4)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate

• Dugongs. • Shags • Bottlenose dolphins.		information about this cultural value (See ROC, 6.1.32). Malgana did not request changes.	included controls, in Sections 6.6 and 6.7 of the EP.
(5) Cultural Value: Knowledge: • Sharing and controlling of knowledge. • Transfer of knowledge to younger generations.	**(5)** This value has been identified through Woodside's data collection processes (publicly available literature).	**(5)** At the beginning of consultation for this EP, Woodside invited Malgana to make changes or provide additional information about this cultural value (See ROC, 6.1.32). Malgana did not request changes.	**(5)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation and/ or literature review.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with Malgana for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided Malgana with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with Malgana on this EP. Woodside provided Malgana:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.

  - A summary of the risks and impacts of the activity.
  - Diagrams.
  - Details about how to provide feedback.
- The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of Malgana's interests and how the activity could impact those interests.
- That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
- Woodside asked Malgana to forward the information to its members.
- Woodside offered to provide more specific information, maps and images to Malgana, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with Malgana on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and Malgana have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to Malgana during Woodside's initial email on 7 April 2025. Malgana was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for Malgana's input into how Malgana would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with Malgana members as well as the Malgana Board.
  - Asked Malgana to advise how it would like Woodside to engage and whether Malgana required further information.
  - Asked Malgana if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Malgana did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated Malgana's interests and cultural values in Section 4.9 and assessed potential impacts on these, including controls, in Section 6.

- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.6 Murujuga Aboriginal Corporation (MAC)

MAC is established under the Burrup and Maitland Industrial Estates Agreement and is the representative body for the Traditional Custodians for Murujuga being the Ngarluma, the Mardudhunera, the Yaburara, the Yindjibarndi, and the Wong-Goo-Tt-Oo peoples (collectively Ngarda-Ngarli). MAC is the cultural authority for Murujuga and is responsible for the management and protection of its cultural values.

Woodside has an existing relationship with MAC which extends prior to consultation for this EP. Woodside's consultation approach for Traditional Owners has a focus on building and maintaining long-term relationships with each group. Woodside has also assigned a First Nations Engagement team member as a dedicated focal person for EP consultation with MAC, who is responsible for building a consultative relationship and is readily available to provide information and take feedback. Aside from regular consultation about EPs, Woodside invites MAC to monthly luncheons.

At the start of consultation, Woodside provided MAC a table of cultural values previously identified for MAC through consultation and reviews of publicly available literature. Woodside invited MAC to make changes or provide additional information about these cultural values. MAC did not request changes. This context and process demonstrates that Woodside's consultation approach with MAC is appropriate and adapted to the nature and interests of MAC.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed MAC advising of the proposed activity (Record of Consultation, reference 6.1.33), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** Ecosystem and health of Mermaid Sound.
    - **(2)** Marine species – whales, dolphins, dugongs, fish, sea snakes, turtles, coral, seagrass.
    - **(3)** Marine eco-systems – mangroves, macroalgal (seaweed) communities, subtidal soft bottom communities, intertidal sand and mudflat communities, rocky shores.
    - **(4)** Fish traps in Conzinc Bay, and Angel and Gidley Islands.
    - **(5)** Harvesting squid around Conzinc Bay.
    - **(6)** MAC is the appropriate cultural authority for Murujuga.
    - **(7)** Potential impact on Jinna (Songlines) on the submerged landscape.

  - **(1, 2, 3, 4, 5, 6, 7)** A request from Woodside that MAC confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how MAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for MAC to provide information about the proposed activity to other individuals, as required.
- On 7 April 2025, Woodside emailed MAC a brochure for a community lunch in Roebourne on 8 April 2025 (SI Report B, reference 24.1). This brochure was also displayed at a number of locations including Woodside's Roebourne office.
- On 8 April 2025, Traditional Owner members from MAC, NYFL, NAC, Yindjibarndi, WAC and Yawuru attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report B, reference 24.2).
- On 28 April 2025, Woodside emailed MAC a reminder about the proposed activity (SI Report B, reference 6.1). The email included:
  - A reference to the original consultation email for this EP sent to MAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how MAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Value: Ecosystem and health of Mermaid Sound	**(1)** This value has been identified through Woodside's data collection processes (publicly available literature).	**(1)** At the beginning of consultation for this EP, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (see ROC, 6.1.33). MAC did not request changes.	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(2) Cultural Value: Marine species:	**(2)** This value has been identified through Woodside's data collection processes (consultation).	**(2)** At the beginning of consultation for this EP, Woodside provided MAC with a list of the cultural values known to	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential

• Whales, totemic importance. • Dolphins, cultural ceremonies. • Dugongs, food source. • Fish, cultural ceremonies. • Sea Snakes, culturally important. • Turtles, Songlines • Coral, attract fish and other species • Seagrass, provide protection for animals. Locations include Conzinc Bay, and between Angel and Gidley Islands.		Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.33). MAC did not request changes.	impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(3) Cultural Value: Marine eco-systems: • Mangroves. • Macroalgal (seaweed) communities. • Subtidal soft bottom communities. • Intertidal sand and mudflat communities. • Rocky shores.	**(3)** This value has been identified through Woodside's data collection processes (consultation and publicly available literature).	**(3)** At the beginning of consultation for this EP, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.33) MAC did not request changes.	**(3)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP. Identified marine eco-systems are not present in the Operational Area but may be contacted in the event of a large hydrocarbon spill (Section 6.7).
(4) Cultural Value: Fish traps in Conzinc Bay, and Angel and Gidley Islands.	**(4)** This value has been identified through Woodside's data collection processes (publicly available literature). Although this area is not within the EP EMBA Woodside has noted this value in the EP.	**(4)** At the beginning of consultation for this EP, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.33) MAC did not request changes.	**(4)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP. Fish traps are not present in the Operational Area but may be contacted

			in the event of a large hydrocarbon spill (Section 6.7).
(5) Cultural Value: Harvesting squid around Conzinc Bay.	**(5)** This value has been identified through Woodside's data collection processes (publicly available literature). Although this area is not within the EP EMBA, Woodside has noted this value in the EP.	**(5)** At the beginning of consultation for this EP, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.33). MAC did not request changes.	**(5)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(6) Cultural Value: MAC is the appropriate cultural authority for Murujuga.	**(6)** This value has been identified through Woodside's data collection processes (consultation).	**(6)** At the beginning of consultation for this EP, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.33) MAC did not request changes.	**(6)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(7) Cultural Value: Potential impact on Jinna (Songlines) on the submerged landscape.	**(7)** This value has been identified through Woodside's data collection processes (consultation).	**(7)** At the beginning of consultation for this EP, Woodside provided MAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.33) MAC did not request changes.	**(7)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate,	No additional measures or controls are required.

	included based on consultation and / or literature review.	Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with MAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided MAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with MAC on this EP. Woodside provided MAC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of MAC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked MAC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to MAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with MAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and MAC have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to MAC during Woodside's initial email on 7 April 2025. MAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for MAC's input into how MAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with MAC members as well as the MAC Board.
  - Asked MAC to advise how it would like Woodside to engage and whether MAC required further information.
  - Woodside asked MAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- Woodside invites MAC to monthly luncheons.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- MAC did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated MAC's interests and cultural values in Section 4.9 and assessed potential impact on these, including controls, in Section 6.

Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.7 Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)

NTGAC is established under the *Native Title Act 1993 (Cth)* by the Baiyungu people to represent the Baiyungu people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Woodside has an existing relationship with NTGAC which extends prior to consultation for this EP. Woodside's consultation approach for Traditional Owners has a focus on building and maintaining long-term relationships with each group. Woodside has assigned a First Nations Engagement team member as a dedicated focal person for EP consultation with NTGAC who is responsible for building a consultative relationship and is readily available to provide information and take feedback. YMAC provides NTGAC with administrative assistance.

At the start of consultation, Woodside provided NTGAC (via YMAC) a table of cultural values previously identified for NTGAC through consultation and reviews of publicly available literature. Woodside invited NTGAC to make changes or provide additional information about these cultural values. NTGAC did not request changes.

During consultation for this EP, Woodside became aware that NTGAC was undergoing an organisational restructure. This ultimately meant that a face-to-face consultation may not be possible for this EP. Because of this Woodside offered to travel to any location and reminded NTGAC that Woodside is readily available to answer any questions and that it accepts feedback for the life of an EP. Woodside's focus is on supporting NTGAC through the period of change whilst enabling NTGAC to consult and remain informed about Woodside's activities, including activities proposed to be undertaken for this EP. This context and process demonstrates that Woodside's consultation approach with NTGAC is appropriate and adapted to the nature and interests of NTGAC.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed NTGAC (via YMAC) advising of the proposed activity (Record of Consultation, reference 6.1.34), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** Interests in marine ecosystems and species – invasive marine species, chemicals released into the water (ballast water discharges), risks to marine parks.
  - **(1)** A request from Woodside that NTGAC confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how NTGAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for NTGAC to provide information about the proposed activity to other individuals, as required.
- On 1 May 2025, Woodside emailed NTGAC (via YMAC) a reminder about the proposed activity (SI Report B, reference 7.1). The email included:
  - A reference to the original consultation email for this EP sent to NTGAC via YMAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how NTGAC (via YMAC) would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1)	**(1)**	**(1)**	**(1)**

Cultural Value: Interests in marine ecosystems and species – invasive marine species, chemicals released into the water (ballast water discharges), risks to marine parks.	This value has been identified through Woodside's data collection processes (consultation).	At the beginning of consultation for this EP, Woodside provided NTGAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.34) NTGAC did not request changes.	Woodside recorded this cultural value in Section 4.9 of the EP. The management of ballast water discharges is covered in Section 6.7.11 of the EP.
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation and/ or literature review.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with NTGAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided NTGAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with NTGAC on this EP. Woodside provided NTGAC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of NTGAC's interests and how the activity could impact those interests.

- That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
- Woodside asked NTGAC to forward the information to its members.
- Woodside offered to provide more specific information, maps and images to NTGAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with NTGAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and NTGAC have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to NTGAC during Woodside's initial email on 7 April 2025. NTGAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for NTGAC's input into how NTGAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran social media campaigns (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with NTGAC members as well as the NTGAC Board.
  - Asked NTGAC to advise how it would like Woodside to engage and whether NTGAC required further information.
  - Asked NTGAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- NTGAC did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated NTGAC's interests and cultural values in Section 4.9 and assessed potential impact on these, including controls, in Section 6.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.8 Ngarluma Aboriginal Corporation (NAC)

NAC is established under the *Native Title Act 1993 (Cth)* by the Ngarluma people to represent the Ngarluma people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Woodside has an existing relationship with NAC which extends prior to consultation for this EP. Woodside's consultation approach for Traditional Owners has a focus on building and maintaining long-term relationships with each group. Woodside has assigned a First Nations Engagement team member as a dedicated focal person for EP consultation with NAC, who is responsible for building a consultative relationship and is readily available to provide information and take feedback. Aside from regular consultation about EPs, Woodside invites NAC to monthly luncheons and quarterly heritage meetings.

At the start of consultation, Woodside provided NAC a table of cultural values previously identified for NAC through consultation and reviews of publicly available literature. Woodside invited NAC to make changes or provide additional information about these cultural values. NAC did not request changes. This context and process demonstrates that Woodside's consultation approach with NAC is appropriate and adapted to the nature and interests of NAC.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed NAC advising of the proposed activity (Record of Consultation, reference 6.1.35), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** Onshore heritage.
    - **(2)** Potential of submerged heritage.
  - **(1, 2)** A request from Woodside that NAC confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how NAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for NAC to provide information about the proposed activity to other individuals, as required.
- On 7 April 2025, Woodside emailed an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report B, reference 24.1). This brochure was also displayed at a number of locations including Woodside's Roebourne office.
- On 8 April 2025, Traditional Owner members from MAC, NYFL, NAC, Yindjibarndi, WAC and Yawuru attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report B, reference 24.2).
- On 28 April 2025, Woodside emailed NAC a reminder about the proposed activity (SI Report B, reference 8.1). The email included:

- A reference to the original consultation email for this EP sent to NAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
- A reminder that consultation for the preparation of this EP closes on 16 May 2025.
- A request for information on how NAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
- Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

- On 28 April 2025, Woodside sent a follow up email to NAC clarifying that consultation for this EP begun on 7 April 2025 (SI Report B, reference 8.2).
- On 15 May 2025, Woodside emailed NAC an invitation to Woodside's Quarterly Heritage Meeting on 4 June 2025, as an opportunity for Woodside to provide updates on Woodside's activities to Traditional Owner groups and to receive feedback from the community (SI Report B, reference 8.3).
- On 4 June 2025, Woodside attended a Quarterly Community Heritage meeting with Traditional Owners including members of NAC and WAC (SI Report B, reference 25.1). Matters discussed relevant to this EP included:
  - Woodside provided an overview of this EP and the consultation process with relevant First Nations persons.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Value: Onshore Heritage.	**(1)** This value has been identified through Woodside's data collection processes (consultation).	**(1)** At the beginning of consultation for this EP, Woodside provided NAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.35) NAC did not request changes.	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP. Onshore Heritage is not present in the Operational Area but may be contacted in the event of a large hydrocarbon spill (Section 6.7).
(2) Cultural Value: Potential of submerged heritage.	**(2)** This value has been identified through Woodside's data collection processes (consultation).	**(2)** At the beginning of consultation for this EP, Woodside provided NAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.35). NAC did not request changes.	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.

No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation and / or literature review.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with NAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided NAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with NAC on this EP. Woodside provided NAC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of NAC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked NAC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to NAC if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with NAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and NAC have consulted for three months, demonstrating a "reasonable period" of consultation.

- A consultation period was communicated to NAC during Woodside's initial email on 7 April 2025. NAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for NAC's input into how NAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with NAC members as well as the NAC Board.
  - Asked BTAC to advise how it would like Woodside to engage and whether NAC required further information.
  - Asked NAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.
- Woodside invites NAC to monthly luncheons and Quarterly Heritage Meetings.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- NAC did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated NAC's interests and cultural values in Section 4.9.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.9 Nimanburr Aboriginal Corporation (Nimanburr)

Nimanburr is established under the *Native Title Act 1993 (Cth)* by the Nimanburr people to represent the Nimanburr people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

At the start of consultation, Woodside provided Nimanburr a table of cultural values previously identified for Nimanburr through consultation and reviews of publicly available literature. Woodside invited Nimanburr to make changes or provide additional information about these cultural values. Nimanburr did not request changes.

Summary of information provided and record of consultation for this EP:

- On 3 April 2025, after several telephone calls to Nimanburr with no response, members from Woodside's First Nations Engagement team left a business card at the residence of a member of the Nimanburr community, requesting the individual contact Woodside (SI Report B, reference 9.1). Woodside was then approached by a resident of the property who confirmed that Nimanburr had been receiving the previously provided EP information from Woodside. The resident also stated that a Nimanburr Board meeting was being planned for the near future and Nimanburr would be in contact to provide an invite to Woodside to speak to its Board members.
- On the same day, 3 April 2025, Woodside provided the individual with a printed copy of the Record of Consultation email and the Summary Information sheet for this EP to deliver to Nimanburr (Record of Consultation, reference 6.1.36). The email and Summary Information Sheet included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A link to the Consultation Information Sheet.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** Valentine Island has cultural value.
  - **(1)** A request from Woodside that Nimanburr confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how Nimanburr would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside during the life of the EP.
  - A request for Nimanburr to provide information about the proposed activity to other individuals, as required.
- On 3 April 2025, Nimanburr emailed Woodside to confirm that it would review the information shared and would notify Woodside of its Directors meeting scheduled on 2 May 2025. Woodside replied acknowledging the email (SI Report B, references 9.2 – 9.3)
- On 28 April 2025, Woodside emailed Nimanburr a reminder about the proposed activity (SI Report B, reference 9.4). The email included:
  - A reference to the original consultation email for this EP sent to Nimanburr on 3 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how Nimanburr would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- On 6 May 2025, Woodside met with Nimanburr (SI Report B, reference 9.5). During the meeting Nimanburr informed Woodside that its Directors/Board meeting would potentially be on 30 May 2025.

- On 26 May 2025, Woodside and Nimanburr exchanged emails about IT facilities for the meeting scheduled for 30 May 2025 (SI Report B, references 9.6 – 9.7).
- On 30 May 2025, Nimanburr cancelled a meeting with Woodside and its Board that had been scheduled for later that day due to Nimanburr being unable to secure a quorum of Board members (SI Report B, reference 9.8).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Value: Valentine Island.	**(1)** This value has been identified through Woodside's data collection processes (publicly available literature). Although this area is not within the EP EMBA Woodside has noted this value in the EP.	**(1)** At the beginning of consultation for this EP, Woodside provided Nimanburr with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.36) Nimanburr did not request changes.	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values. No additional measures or controls are required.
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation and / or literature review.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with Nimanburr for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided Nimanburr with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 3 April 2025, Woodside commenced consultation with Nimanburr on this EP. Woodside hand delivered printed consultation material in Broome including:

- A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
  - An overview of the activity and proposed timing.
  - Maps showing the location and EMBA.
  - A summary of the risks and impacts of the activity.
  - Diagrams.
  - Details about how to provide feedback.
- The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of Nimanburr's interests and how the activity could impact those interests.
- That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
- Woodside asked Nimanburr to forward the information to its members.
- Woodside offered to provide more specific information, maps and images to Nimanburr, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with Nimanburr on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and Nimanburr have consulted for three months, demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to Nimanburr during Woodside's initial meeting on 3 April 2025. Nimanburr was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for Nimanburr's input into how Nimanburr would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside provided Nimanburr with information about this EP on 3 April 2025. Woodside:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with Nimanburr members as well as the Nimanburr Board.
  - Asked Nimanburr to advise how it would like Woodside to engage and whether Nimanburr required further information.
  - Asked Nimanburr if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Nimbanburr did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated Nimanburr's interests and cultural values in Section 4.9.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.10 Nyangumarta Karajarri Aboriginal Corporation (NKAC)

NKAC is established under the *Native Title Act 1993 (Cth)* by the Nyangumarta and Karajarri people to represent the Nyangumarta and Karajarri people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values. KLC assists NKAC with administrative matters.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed NKAC (via KLC) advising of the proposed activity (Record of Consultation, reference 6.1.37), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how NKAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for NKAC to provide information about the proposed activity to other individuals, as required.
- On 28 April 2025, Woodside emailed NKAC (via KLC) a reminder about the proposed activity (SI Report B, reference 10.1). The email included:
  - A reference to the original consultation email for this EP sent to NKAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how NKAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Woodside's commitment to managing gender-restricted or other culturally sensitive information.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

- On 29 April 2025, NNKAC (via KLC) emailed Woodside to confirm it had forwarded Woodside's email of 28 April 2025 to the directors of NKAC (SI Report B, reference 10.2).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP.	Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with NKAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided NKAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with NKAC on this EP. Woodside provided NKAC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of NKAC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked NKAC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to NKAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with NKAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and NKAC have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to NKAC during Woodside's initial email on 7 April 2025. NKAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for NKAC's input into how NKAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with NKAC members, as well as the NKAC Board.
  - Asked NKAC to advise how it would like Woodside to engage and whether NKAC required further information.
  - Asked NKAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- NKAC did not provide feedback or information during consultation for this EP.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.11 Nyangumarta Warrarn Aboriginal Corporation (NWAC)

NWAC is established under the *Native Title Act 1993 (Cth)* by the Nyangumarta people to represent the Nyangumarta people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

At the start of consultation, Woodside provided NWAC a table of cultural values previously identified for NWAC through consultation and reviews of publicly available literature. Woodside invited NWAC to make changes or provide additional information about these cultural values. NWAC did not request changes.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed NWAC advising of the proposed activity (Record of Consultation, reference 6.1.38), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** Eighty Mile Beach has cultural and ecological value to the Nyangumarta Custodians.
    - **(2)** Resource collection – impacts to migrating birds, whales, turtles and vegetation.
  - **(1, 2)** A request from Woodside that NWAC confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how NWAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for NWAC to provide information about the proposed activity to other individuals, as required.
- On 28 April 2025 Woodside emailed NWAC a reminder about the proposed activity (SI Report B, reference 11.1). The email included:
  - A reference to the original consultation email for this EP sent to NWAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how NWAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Woodside's commitment to managing gender-restricted or other culturally sensitive information.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Value: Eighty Mile Beach has cultural and ecological value to the Nyangumarta Custodians.	**(1)** This value has been identified through Woodside's data collection processes (consultation).	**(1)** At the beginning of consultation for this EP, Woodside provided NWAC with a list of the cultural values known to Woodside that it believed relevant to the	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values. These receptors are only predicted to be contacted in the event of

	Although this area is not within the EP EMBA Woodside has noted this value in the EP.	group and invited it to make changes or provide additional information (See ROC, 6.1.38). NWAC did not request changes.	a large hydrocarbon spill. Mitigation measures have been included in Section 6.7 of the EP.
(2) Cultural Value: Resource collection – impacts to migrating birds, whales, turtles and vegetation.	**(2)** This value has been identified through Woodside's data collection processes (consultation).	**(2)** At the beginning of consultation for this EP, Woodside provided NWAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.38). NWAC did not request changes.	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation and / or literature review.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.
Summary Report – Consultation Complete			
Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with NWAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically: **Sufficient Information** Sufficient information has been provided because: • Woodside has provided NWAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters. • In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website. • On 7 April 2025, Woodside commenced consultation with NWAC on this EP. Woodside provided NWAC: – A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:			

    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of NWAC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked NWAC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to NWAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with NWAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and NWAC have consulted for three months demonstrating a "reasonable period" of consultation, where a genuine two-way dialogue has occurred through both written and face-to-face exchanges on this activity.
- A consultation period was communicated to NWAC during Woodside's initial email on 7 April 2025. NWAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for NWAC's input into how NWAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with NWAC members as well as the NWAC Board.
  - Asked NWAC to advise how it would like Woodside to engage and whether NWAC required further information.
  - Asked NWAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- NWAC did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated NWAC's interests and cultural values in Section 4.9 and assessed potential impact on these, including controls, in Section 6.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.12 Nyul Nyul PBC Aboriginal Corporation (NNAC)

NNAC is established under the *Native Title Act 1993 (Cth)* by the Nyul Nyul people to represent the Nyul Nyul people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values. Woodside consults with NNAC via KLC.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed NNAC (via KLC) advising of the proposed activity (Record of Consultation, reference 6.1.39), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how NNAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for NNAC to provide information about the proposed activity to other individuals, as required.
- On 28 April 2025, Woodside emailed NNAC (via KLC) to request consultation emails are forwarded to the appropriate persons. Woodside also provided an opportunity to meet face to face to discuss this EP (SI Report B, reference 12.1)
- On 28 April 2025, Woodside emailed NNAC (via KLC) a reminder about the proposed activity (SI Report B, reference 12.2). The email included:
  - A reference to the original consultation email for this EP sent to NNAC (via KLC) on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how NNAC (via KLC) would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP.	Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with NNAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided NNAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with NNAC on this EP. Woodside provided NNAC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of NNAC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked NNAC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to NNAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with NNAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and NNAC have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to NNAC during Woodside's initial email on 7 April 2025. NNAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for NNAC's input into how NNAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with NNAC members as well as the NNAC Board.
  - Asked NNAC to advise how it would like Woodside to engage and whether NNAC required further information.
  - Asked NNAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- NNAC did not provide feedback or information during consultation for this EP relating to cultural values.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.13 Robe River Kuruma Aboriginal Corporation (RRKAC)

RRKAC is established under the *Native Title Act 1993 (Cth)* by the Robe River Kuruma people to represent the Robe River Kuruma people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

At the start of consultation, Woodside provided RRKAC a table of cultural values previously identified for RRKAC through consultation and reviews of publicly available literature. Woodside invited RRKAC to make changes or provide additional information about these cultural values. RRKAC did not request changes.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed RRKAC advising of the proposed activity (Record of Consultation, reference 6.1.40), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet.
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** Concerns about underwater heritage – impacts at shoreline.
    - **(2)** The coastline.
  - **(1, 2)** A request from Woodside that RRKAC confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how RRKAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for RRKAC to provide information about the proposed activity to other individuals, as required.
- On 7 April 2025, Woodside emailed an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report B, reference 24.1). This brochure was also displayed at a number of locations including Woodside's Roebourne office.
- On 28 April 2025, Woodside emailed RRKAC a reminder about the proposed activity (SI Report B, reference 13.1). The email included:
  - A reference to the original consultation email for this EP sent to RRKAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how RRKAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Value:	**(1)**	**(1)** At the beginning of consultation for this EP, Woodside provided RRKAC with a	**(1)** Woodside has updated Section 4.9 to record these interests and cultural

Concerns about underwater heritage – impacts at shoreline.	This value has been identified through Woodside's data collection processes (consultation).	list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.40). RRKAC did not request changes.	values. These receptors are only predicted to be contacted in the event of a large hydrocarbon spill. Mitigation measures have been included in Section 6.7 of the EP.
(2) Cultural Value: The coastline.	**(2)** This value has been identified through Woodside's data collection processes (consultation).	**(2)** At the beginning of consultation for this EP, Woodside provided RRKAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.40). RRKAC did not request changes.	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values. These receptors are only predicted to be contacted in the event of a large hydrocarbon spill. Mitigation measures have been included in Section 6.7 of the EP.
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation and / or literature review.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8).	No additional measures or controls are required.
Summary Report – Consultation Complete			
Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with RRKAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically: **Sufficient Information** Sufficient information has been provided because: • Woodside has provided RRKAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters. • In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website. • On 7 April 2025, Woodside commenced consultation with RRKAC on this EP. Woodside provided RRKAC:			

  - A Summary Information Sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of RRKAC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked RRKAC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to RRKAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with RRKAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and RRKAC have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to RRKAC during Woodside's initial email on 7 April 2025. RRKAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.
- Woodside commenced consultation with RRKAC in April 2025. Woodside has addressed and responded to RRKAC queries over three months, demonstrating a "reasonable period" of consultation.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for RRKAC's input into how RRKAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over two months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with RRKAC members, as well as the RRKAC Board.
  - Asked RRKAC to advise how it would like Woodside to engage and whether RRKAC required further information.

- Asked RRKAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

- Woodside invites RRKAC to monthly luncheons.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- RRKAC did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated RRKAC's interests and cultural values in Section 4.9.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.14 Wanparta Aboriginal Corporation (Wanparta)

Wanparta is established under the *Native Title Act 1993 (Cth)* by the Ngarla people to represent the Ngarla people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

At the start of consultation, Woodside provided Wanparta a table of cultural values previously identified for Wanparta through consultation and reviews of publicly available literature. Woodside invited Wanparta to make changes or provide additional information about these cultural values. Wanparta did not request changes to these specific values but provided additional information which has been incorporated into this EP.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Wanparta advising of the proposed activity (Record of Consultation, reference 6.1.41), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** A connection to and cultural obligation to look after Sea Country.
    - **(2)** Dreamtime stories connected to nearshore islands particularly Solitary Island / Jarrkunpungu.
    - **(3)** Sea (fresh and salt water) – dreaming stories, a responsibility to look after the ocean.
    - **(4)** Totemic species – kestrel, octopus, spiny brim, sting ray.
  - **(1, 2, 3, 4)** A request from Woodside that Wanparta confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how Wanparta would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.

  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for Wanparta to provide information about the proposed activity to other individuals, as required.
- On 28 April 2025, Woodside emailed Wanparta a reminder about the proposed activity (SI Report B, reference 14.1). The email included:
  - A reference to the original consultation email for this EP sent to Wanparta on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how Wanparta would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- On 29 April 2025, Woodside emailed Wanparta to follow up on a phone discussion and confirm that Woodside will host a consultation meeting with Wanparta on Friday 9 May 2025 (SI Report B, reference 14.2).
- Between 29 April and 8 May 2025, Woodside and Wanparta exchanged text messages and emails about arrangements for the 9 May meeting (SI Report, references 14.3 -14.12).
- On 9 May 2025, Woodside met with Wanparta to discuss this and another EP (SI Report B, reference 14.13). Relevant matters included:
  - Woodside provided an overview of this EP and another.
  - **(5)** Wanparta enquired about oil spill procedures including:
    - Oil spill response times.
    - Dispersant procedures.
    - Gas and condensate behave during a spill or loss of well control.
  - **(5)** Woodside responded that response times are subject to circumstances, and that dispersant spray is used as a part of a suite of responses in the unlikely event of an oil spill. Woodside noted that condensate has different properties and that the behaviour of the condensate depends on the specific type of product, the location of its release and other factors.
  - **(6)** Wanparta asked about vessel discharges. **(6)** Woodside noted that maritime legislation dictates how discharges are managed.
  - **(7)** Wanparta enquired about whale and turtle breeding and migration pathways. **(7)** Woodside explained that it takes factors such as these into consideration and puts mitigation measures in place to address this.
  - **(8)** Wanparta asked if Woodside records whale observations. **(8)** Woodside noted it uses available research and that staff have a duty to report wildlife sightings.
  - **(9)** Wanparta provided feedback that more visual learning material would aid consultation. **(9)** Woodside acknowledged the importance of visual aids and noted that animation videos are currently being developed to support Traditional Owners with the EP consultation process.
  - **(10)** Wanparta enquired about support for Ranger Programs. **(10)** Woodside provided a Ranger Program update.
  - **(1)** Wanparta noted that a healthy sea country = a healthy marine life = Ngarla food source = healthy Ngarla People. **(1)** Woodside acknowledged this feedback.
  - **(11)** Wanparta noted concerns around maintaining sustainable fish stock post operations during decommissioning. **(11)** Woodside noted that the EPs discussed are not in relation to decommissioning and that it assesses the environmental impacts of removing infrastructure.

  - **(6)** Wanparta asked if the release of waste products on vessels creates an artificial environment. **(6)** Woodside noted that sea life may aggregate.
  - **(12)** Wanparta questioned if Woodside monitors islands, in particular nesting shore birds. **(12)** Woodside took that question on notice.
  - **(2)** Wanparta noted that there is ethnohistorical evidence of Ngarla occupation on islands. **(2)** Woodside acknowledged this cultural value.
  - **(13)** Wanparta asked to engage an independent expert to verify the effect of dispersant in the unlikely case of an oil spill. **(13)** Woodside took that question on notice.
- On 16 May 2025, Wanparta emailed Woodside a letter (SI Report B, reference 14.14). The letter:
  - Summarised outcomes and questions raised during a meeting between Wanparta and Woodside on 9 May 2025 including:
    - **(2, 12)** Wanparta queried if Woodside monitors islands within its determination noting there is ethnohistorical evidence of occupation on the Islands.
    - **(13)** Wanparta requested to engage an independent expert to verify the effect of dispersant usage.
    - **(5)** Wanparta requested Woodside to explain how gas and condensate behave during a spill.
    - **(1)** Wanparta confirmed of the importance of a healthy sea country.
    - **(11)** Wanparta noted Woodside should maintain sustainable fish stocks post operations.
  - **(14)** Wanparta requested Woodside attend at least one Board meeting per calendar year.
- On 10 June 2025, Woodside responded to the letter sent by Wanparta of 16 May 2025 (SI Report B, reference 14.14). The letter included answers to questions raised by Wanparta as well as questions Woodside took on notice from the consultation meeting on 9 May 2025.
  - **(12)** Wanparta asked if Woodside will monitor the islands within the Ngarla Determination Area. **(12)** Woodside noted that it does not currently monitor islands within the Ngarla Determination Area under the proposed activity program for this and another EP, noting that the islands are outside of the EMBA. Woodside has captured the significance of these islands in its records and this EP.
  - **(13)** Wanparta questioned if Woodside is able to engage an independent expert to verify the effect of dispersant usage on the health of the ocean. **(13)** Woodside noted that if Wanparta wishes to engage an independent expert to verify the effects of dispersant usage it is welcome to do so.
  - **(5)** Wanparta sought clarity on how gas and condensate behave during a spill or loss of well control. **(5)** Woodside explained that in the highly unlikely event of a hydrocarbon spill, weathering processes are influenced by the specific properties of the substance spilled and the specific conditions of the release.
  - **(1)** Wanparta raised that in the Ngarla People's view healthy Sea Country = a healthy marine life = Ngarla food source = healthy Ngarla People. **(1)** Woodside updated Section 4.9 to record these interests and potential cultural values and assessed potential impact on these, including controls.
  - **(11)** Wanparta noted that Woodside should maintain sustainable fish stocks post operations. **(11)** Woodside recognises the importance of maintaining sustainable fish stocks post operations and acknowledges that offshore platforms and pipelines can become habitats for various fish species over time. Woodside also provided further details of research underway and provided details of Woodsides regulatory expectations.
  - **(14)** Wanparta requested that Woodside attends at least one Board meeting per calendar year. **(14)** Woodside appreciates Wanparta's invitation to attend at least one annual Board meeting and remains open to additional engagement opportunities as they arise.
  - **(12)** Woodside took a question on notice to seek more information on research activities relating to the monitoring of shorebirds. **(12)** Woodside provided Wanparta with information on shorebirds and noted that since 2016, Woodside has partnered with BirdLife Australia on programs focused on migratory shorebirds.
  - **(10)** Woodside took a question on notice to continue discussion on ranger programs. **(10)** Woodside is in the process of developing a Ranger Funding Program. Woodside noted that Wanparta's request will be evaluated in accordance with the Program's criteria upon its implementation.
- **(1)** On 12 June 2025, Wanparta emailed Woodside seeking an extract of Section 4.9 from this EP and another (SI Report B, reference 14.16).

- **(1)** On 19 June 2025, Woodside responded to Wanparta advising that as this EP and another are still being prepared, it is unable to provide an extract of Section 4.9 of the EP. Woodside provided a list of the cultural values that Woodside has considered for Wanparta in preparation of this EP and provided information relating to an in-force and publicly available EP with complete information in Section 4.9 that would be similar to that being prepared for this EP and another (SI Report B, reference 14.17).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Value: A connection to and cultural obligation to look after Sea Country. A healthy Sea Country leads to healthy marine life and healthy Ngarla People.	**(1)** This value has been identified through Woodside's data collection processes (consultation).	**(1)** At the beginning of consultation for this EP, Woodside provided Wanparta with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.41). Wanparta provided further information about this value during consultation for this EP. Woodside has updated relevant sections of this EP to record interests and cultural values and assessed the potential impact on these and included controls.	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(2) Cultural Value: Dreamtime stories connected to nearshore islands particularly Solitary Island / Jarrkunpungu. There is ethnohistorical evidence of Ngarla occupation on these islands.	**(2)** This value has been identified through Woodside's data collection processes (consultation). Although this area is not within the EP EMBA Woodside has noted this value in the EP.	**(2)** At the beginning of consultation for this EP, Woodside provided Wanparta with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (see ROC, 6.1.41). Wanparta provided further information about this value during consultation for this EP. Woodside has updated relevant sections of this EP to record interests and cultural values and assessed the potential impact on these and included controls.	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values. These receptors are only predicted to be contacted in the event of a large hydrocarbon spill. Mitigation measures have been included in Section 6.7 of the EP.

(3) Cultural Value: Sea (fresh and salt water): • Dreaming stories. • A responsibility to look after the ocean.	**(3)** This value has been identified through Woodside's data collection processes (consultation).	**(3)** At the beginning of consultation for this EP, Woodside provided Wanparta with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.41) Wanparta did not request changes.	**(3)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(4) Cultural Value: Totemic species: • Kestrel. • Octopus. • Spiny brim. • Sting ray.	**(4)** This value has been identified through Woodside's data collection processes (consultation).	**(4)** At the beginning of consultation for this EP, Woodside provided Wanparta with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.41). Wanparta did not request changes.	**(4)** Woodside updated Section 4.9 to record these interests and cultural values and where appropriate assessed the potential impacts on these, included controls in in Sections 6.6 and 6.7 of the EP.
(5) Wanparta enquired about oil spill procedures including: • Oil spill response times. • Dispersant procedures. • How gas and condensate behave during a spill or loss of well control.	**(5)** In the highly unlikely event of a spill, Woodside would enact its First Strike Plan.	**(5)** Woodside has advised Wanparta that response times are subject to circumstances, and that dispersant spray is used as a part of a suite of responses in the unlikely event of an oil spill. Woodside noted that condensate has different properties and that the behaviour of the condensate depends on the specific type of product, the location of its release and other factors	**(5)** Measures relating to oil spills are covered in Appendix G – Oil spill Preparedness and Response and Appendix H – Oil Pollution First Strike Plan
(6) Wanparta asked about vessel discharges, in particular if waste products on vessels creates an artificial environment.	**(6)** Woodside notes that maritime legislation dictates how discharges are managed.	**(6)** Woodside acknowledges the Ngarla People's view that a healthy sea country equals a healthy marine life, which in turn supports food sources and contributes to the well-being of the	**(6)** Risks and mitigation measures relating to vessel discharges are in Section 6.6.5 of the EP.

		Ngarla People. Woodside is committed to managing activities in a way that supports this balance.	
(7) Wanparta enquired about whale and turtle breeding and migration pathways.	**(7)** Woodside assesses risks to marine life and puts in place mitigation measures in its EPs.	**(7)** Woodside has advised Wanparta that it takes factors such as these into consideration and puts mitigation measures in place to address this.	**(7)** Section 4.6.2 and 4.6.3 of the EP identifies the whale and turtle breeding and migration pathways. Risks to whale and turtle breeding and migration pathways have been assessed where relevant in Section 6.6 and Section 6.7 of the EP. Mitigation measures have been adopted where relevant.
(8) Wanparta asked if Woodside records whale observations.	**(8)** Woodside uses available research about whale activity. Staff have a duty to report wildlife sightings.	**(8)** Woodside has advised Wanparta how whale sightings are managed.	**(8)** No action required.
(9) Wanparta provided feedback that more visual learning material would aid consultation.	**(9)** Woodside welcomes this feedback and is committed to consulting with Traditional Owners in an appropriate way.	**(9)** Woodside acknowledges the importance of visual aids and notes that animation videos are currently being developed to support Traditional Owners with the Environment Plan consultation process	**(9)** No action required.
(10) Wanparta enquired about support for Ranger Programs.	**(10)** Woodside sees the value of groups having ranger programs.	**(10)** Woodside is in the process of developing a ranger funding program. Wanparta's request will be evaluated in accordance with the program's criteria upon its implementation.	**(10)** No action required.
(11) Wanparta noted concerns around maintaining sustainable fish stock post operations during decommissioning**.**	**(11)** Woodside recognises the importance of maintain sustainable fish stocks post operations and acknowledges that offshore platforms and pipelines can become habitats for fish over time.	**(11)** Woodside has informed Wanparta that this EP does not include decommissioning. Consistent with regulatory expectations, Woodside is committed to removing infrastructure, unless a thorough assessment	**(11)** No action required.

		determines that leaving certain infrastructure in place would deliver better overall environmental outcomes.	
(12) Wanparta questioned if Woodside monitors islands within the Ngarla Determination area, in particular nesting shore birds.	**(12)** Woodside does not currently monitor these islands and notes they are outside the EMBA for this EP. Woodside recognises the environmental significance of the islands and the critical role they play as nesting and foraging habitats for resident and migratory shorebirds.	**(12)** Woodside has informed Wanparta that these islands fall outside the EMBA for this activity. Woodside acknowledges the significance of these islands to the Ngarla people (see number 2). Woodside funds and participates in research and monitoring activities relevant to island environments and shorebird populations. Woodside has provided Wanparta with details of recent partnerships with BirdLife Australia. While Woodside's operational footprint does not extend to these Islands, its EPs consider the potential for indirect impacts on island-nesting shorebirds.	**(12)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7 of the EP.
(13) Wanparta asked to engage an independent expert to verify the effect of dispersant in the unlikely case of an oil spill.	**(13)** Wanparta is welcome to engage an independent expert if it wishes to do so.	**(13)** Use of dispersant is not planned for this EP.	**(13)** Measures relating to oil spills are covered in Appendix G - Oil spill Preparedness and Response and Appendix H – Oil Pollution First Strike Plan
(14) Wanparta requested that Woodside attends at least one Board meeting per calendar year.	**(14)** Woodside sees the value in ongoing engagement with Traditional Owners.	**(14)** Woodside appreciates Wanparta's invitation to attend at least one annual Board meeting and remains open to additional engagement opportunities as they arise.	**(14)** No action required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing	Based on the engagement to date, no additional measures or controls are required.

	the EP relates, as required under Regulation 24.	consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with Wanparta for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided Wanparta with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with Wanparta on this EP. Woodside provided Wanparta:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of Wanparta's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked Wanparta to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to Wanparta, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with Wanparta on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and Wanparta have consulted for three months, demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to Wanparta during Woodside's initial email on 7 April 2025. Wanparta was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.

- Woodside continues to take feedback in relation to the EP.
- Woodside commenced consultation with Wanparta in April 2025. Woodside has addressed and responded to Wanparta queries over three months, demonstrating a "reasonable period" of consultation.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for Wanparta's input into how Wanparta would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with Wanparta members as well as the Wanparta Board.
  - Asked Wanparta to advise how it would like Woodside to engage and whether Wanparta required further information.
  - Asked Wanparta if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Woodside has incorporated Wanparta's interests and cultural values in Section 4.9 and assessed potential impact on these, including controls, in Section 6.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.15 Whadjuk Aboriginal Corporation (Whadjuk)

Whadjuk was established in 2022 as part of the South West Native Title Settlement between the Noongar people and the Western Australian Government. Whadjuk represents the Whadjuk people, the native title holders of the Perth metropolitan region. During consultation for this EP, Woodside became aware that the South West Aboriginal Land Services (SWALS) was assisting Whadjuk with administrative matters. Woodside adjusted its communication with Whadjuk accordingly. During consultation Whadjuk provided Woodside with feedback about cultural values. This feedback has been incorporated into the EP.

Summary of information provided and record of consultation for this EP:

- On 8 April 2025, Woodside emailed Whadjuk (via SWALS) advising of the proposed activity (Record of Consultation, reference 6.1.42), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how Whadjuk would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for Whadjuk to provide information about the proposed activity to other individuals, as required.
- On 28 April 2025, Woodside emailed Whadjuk (via SWALS) a reminder about the proposed activity (SI Report B, reference 15.1). The email included:
  - A reference to the original consultation email for this EP sent to Whadjuk on 8 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how Whadjuk would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Woodside's commitment to managing gender-restricted or other culturally sensitive information.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- On 28 April 2025, Whadjuk (via SWALS) emailed Woodside (SI Report B, reference 15.2). The email stated that this EP did not fall within Whadjuk's Native Title or cultural heritage area of responsibility.
- On 29 April 2025, Woodside emailed Whadjuk (via SWALS) a response to its email on 28 April 2025 and explained that this EP was relevant to Whadjuk's area of interest. Woodside offered to meet Whadjuk to discuss the EP in more detail (SI Report B, reference 15.3).
- On 30 April 2025, Whadjuk (via SWALS) emailed Woodside to accept Woodside's offer to meet to discuss this EP (SI Report B, reference 15.4).
- On 1 and 2 May 2025, Woodside and Whadjuk (via SWALS) exchanged emails about possible meeting dates (SI Report B, references 15.5 – 15.6).
- On 5 May 2025, Whadjuk (via SWALS) emailed Woodside to confirm availability for a meeting on 23 May 2025 (SI Report B, reference 15.7).
- On 6 May 2025, Woodside emailed Whadjuk (via SWALS) to confirm the meeting date of 23 May 2025 (SI Report B, reference 15.8).
- On 23 May 2025, Woodside met Whadjuk to discuss this EP (SI Report B, reference 15.9). Relevant matters discussed included:
  - **(1)** Whadjuk expressed concern about the possibility of a spill:
    - Impact to marine life not just on Rottnest Island but north of Perth and Rockingham.
    - Impact to coastline.
    - Impact to fish runs.

  - **(1)** Woodside explained that this would be a highly unlikely event. Woodside stated that the current in-force EP for the activity is public and provides a robust and detailed assessment of the environment including current risks, impacts and mitigation measures.
  - **(2)** Whadjuk stated that the whole coastline has symbolic sites/areas as well as Noongar tracks.
  - **(3)** Whadjuk stated Wadjemup (Rottnest Island) is an important spiritual place for Whadjuk.
  - **(4)** Whadjuk stated that cultural groups are connected, there are affiliated groups / people along the coast to Roebourne.
  - **(5)** Whadjuk state that there are Songlines, affiliations to cultural and Sea Country totems and seasonal fishing traditions.
  - **(2, 3 ,4 ,5)** Woodside discussed the importance of consultation, that it is ongoing and information sharing, and how consultation is represented in the EP. Woodside also reiterated that consultation is two-way, and involved listening to the Board, understanding cultural values, valuing healthy and robust relationships, and working together through engagement.
  - **(6)** Whadjuk requested a cultural heritage assessment, as well as an environmental assessment to assess impacts, and requested to be provided with environment and cultural heritage plans in respect to Whadjuk Country.
  - **(6)** Woodside took Whadjuk's request for a cultural heritage assessment on notice.
- On 3 June 2025, Whadjuk emailed Woodside a letter, requesting whether Woodside had undertaken a Cultural Heritage Impact assessment specific to Whadjuk land and Sea Country; and if the assessment did not exist, Whadjuk proposed the development of a Whadjuk-led assessment in partnership with Woodside (SI Report B, reference 15.10).
- On 4 June 2025, Whadjuk (via legal representative) emailed Woodside (SI Report B, reference 15.11). The email stated:
- **(7)** Whadjuk is seeking a Confidentiality and Cultural Information Protection Agreement, this agreement would ensure appropriate protection of Whadjuk's cultural and intellectual property.
- On 12 June 2025, Woodside emailed Whadjuk (SI Report B, reference 15.12). Woodside requested a meeting with Whadjuk to discuss:
  - **(6)** Whadjuk's proposal for a cultural heritage assessment.
  - **(7)** Terms for managing and handling confidential and culturally sensitive information.
- **(6, 7)** On 18 June 2025, Woodside emailed Whadjuk (via SWALS) to follow up on an email sent on 12 June 2025 inviting Whadjuk to a meeting to discuss a confidentiality and cultural information protection agreement and a cultural assessment (SI Report B, reference 15.13)
- **(6, 7)** On 18 July 2025, Whadjuk (via SWALS) emailed Woodside to accept Woodside's offer to meet to discuss a confidentiality and cultural information protection agreement and a cultural assessment. The meeting was scheduled for 9 July 2025 (SI Report B, reference 15.14).
- On 19 June 2025, Woodside emailed Whadjuk (via SWALS) an invitation to a meeting scheduled for 9 July 2025 (SI Report B, reference 15.15).
- On 8 July 2025, Woodside emailed Whadjuk (via SWALS) to confirm details for a meeting on 9 July 2025 (SI Report B, reference 15.16).
- On 9 July 2025, Woodside and Whadjuk met (SI Report B, reference 15.17). During the meeting:
  - **(8)** Whadjuk stated that migratory birds were sacred to Whadjuk people and enquired how birds would be protected in the case of an unplanned incident.
  - **(8)** Woodside replied that migratory birds would be recorded in the EP as a cultural value for Whadjuk and that mitigation measures would be put in place for migratory birds.
  - **(6)** Whadjuk said it wished to secure a Whadjuk commissioned Cultural Heritage Plan.

- (6) Woodside invited Whadjuk to provide a draft plan for Woodside's review. This plan would include a proposed scope of work.
- **(7)** Whadjuk wishes to finalise an Intellectual Property Agreement/Confidentiality Plan with Woodside.
- (7) Woodside said it would send Whadjuk a draft confidentiality agreement for Whadjuk's review.
- **(9)** Whadjuk seeks funding from Woodside for a ranger program.
- (9) Woodside provided information about Woodside's support for Traditional Owner ranger programs.
- **(10)** Whadjuk wishes to explore a long-term partnership with Woodside for procurement/commercial purposes. This could include training, cultural awareness and artwork.
- (10) Woodside explained that a partnership of that kind would require input and consideration from higher management.
- **(11)** Whadjuk requested a meeting with Woodside's CEO to discuss Woodside's Reconciliation Action Plan (RAP) and Whadjuk business and cultural opportunities.
- (11) Woodside explained that Woodside's CEO has limited availability however Whadjuk's views can be conveyed through senior management within Woodside's First Nations team.
- **(12)** Whadjuk enquired how information provided by Whadjuk would be captured in the EP.
- (12) Woodside explained how information about Whadjuk's cultural values would be included in the EP and an action was recorded for Woodside to provide a list of these values to Whadjuk.
- **(13)** Whadjuk requested information about agreements Woodside has with Traditional Owner groups in the Pilbara including royalties. Whadjuk stated it should have the same agreements in place as Woodside has with Pilbara groups.
- (13) Woodside explained that agreements with Pilbara Traditional Owners generally relate to land access and management.

- (12) On 15 July 2025, Woodside emailed Whadjuk as a follow up to the consultation meeting held on 9 July 2025 with details of the cultural values obtained during consultation for this EP (SI Report B, reference 15.18).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Whadjuk expressed concern about the possibility of a spill: • Impact to marine life not just on Rottnest Island but north of Perth and Rockingham. • Impact to coastline. • Impact to fish runs.	**(1)** In the highly unlikely event of a spill, Woodside would enact its First Strike Plan, which includes contacting the regulator, NOPSEMA and any relevant cultural authorities that may be affected	**(1)** Woodside explained that this would be a highly unlikely event. Woodside stated that the current EP for the activity is public and provides a robust and detailed assessment of the environment including current risks, impacts and mitigation measures.	**(1)** Measures relating to oil spills are covered in Appendix G – Oil spill Preparedness and Response and Appendix H – Oil Pollution First Strike Plan.

(2) Whadjuk stated that the whole coastline has symbolic sites/areas as well as Noongar tracks.	**(2)** Woodside acknowledges Whadjuk's feedback that the whole coastline has symbolic sites/areas as well as Noongar tracks.	**(2)** Woodside has noted this value in its internal records and included it in this EP.	**(2)** Woodside recorded this cultural value in Section 4.9 of the EP.
(3) Whadjuk stated Wadjemup (Rottnest Island) is an important spiritual place for Whadjuk.	**(3)** Woodside acknowledges Whadjuk's feedback that Wadjemup is an important spiritual place.	**(3)** Woodside has noted this value in its internal records and included it in this EP.	**(3)** Woodside recorded this cultural value in Section 4.9 of the EP.
(4) Whadjuk stated that cultural groups are connected, there are affiliated groups / people along the coast to Roebourne.	**(4)** Woodside acknowledges Whadjuk's feedback that there are affiliated groups / people along the coast to Roebourne.	**(4)** Woodside has noted this value in its internal records and included it in this EP.	**(4)** Woodside recorded this cultural value in Section 4.9 of the EP.
(5) Whadjuk state that there are Songlines, affiliations to cultural and Sea Country totems and seasonal fishing traditions.	**(5)** Woodside acknowledges Whadjuk's feedback that there are Songlines, affiliations to cultural and Sea Country totems and seasonal fishing traditions.	**(5)** Woodside has noted this value in its internal records and included it in this EP.	**(5)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7.
(6) Whadjuk requested a cultural heritage assessment as well as an environmental assessment to assess impacts and requested to be provided with environment and cultural heritage plans in respect to Whadjuk Country.	**(6)** Woodside will consider Whadjuk's request but requires further information.	**(6)** During a meeting on 9 July 2025, Woodside asked Whadjuk to provide a proposal including a scope of works for Woodside's consideration.	**(6)** No action required
(7) Whadjuk requested that Woodside and Whadjuk enter into a Confidentiality and Cultural Information Protection Agreement.	**(7)** Woodside acknowledges the importance of matters relating to confidentiality and the protection of cultural information.	**(7)** During a meeting on 9 July 2025, Woodside agreed to send Whadjuk a draft confidentiality agreement for Whadjuk's consideration.	**(7)** No action required.

(8) Migratory birds are sacred to Whadjuk people.	**(8)** Woodside acknowledges Whadjuk's feedback that migratory birds are sacred to Whadjuk people.	**(8)** Woodside explained that this cultural value would be recorded in the EP and that mitigation measures would be in place for migratory birds.	**(8)** Woodside recorded this cultural value in Section 4.9 of the EP. Mitigation measures relating to migratory birds are in Section 4.6.1, Table 4-11.
(9) Whadjuk seeks a funding from Woodside for a ranger program.	**(9)** Woodside sees the value of groups having ranger programs.	**(9)** Woodside is in the process of developing a ranger funding program. Whadjuk's request will be evaluated in accordance with the program's criteria upon its implementation.	**(9)** No action required.
(10) Whadjuk wishes to explore opportunities for a long-term partnership with Woodside for procurement/commercial purposes.	**(10)** Woodside acknowledges this request and notes that this request is separate from consultation EPs. Woodside has met all regulatory requirements for consulting on this EP including sufficient information, a reasonable period and a reasonable opportunity for Whadjuk to provide feedback.	**(10)** Woodside has informed Whadjuk that any partnership would involve careful consideration from senior management.	**(10)** No action required**.**
(11) Whadjuk has requested a meeting with Woodside's CEO to discuss Woodside's Reconciliation Action Plan (RAP) and Whadjuk business and cultural opportunities.	**(11)** Woodside acknowledges this request however has a dedicated First Nations team that is responsible for engagements of this kind. Woodside has met all regulatory requirements for consulting on this EP including sufficient information, a reasonable period and a reasonable opportunity for Whadjuk to provide feedback.	**(11)** Woodside has informed Whadjuk that its CEO has limited availability however Whadjuk's views can be conveyed through senior management within Woodside's First Nations team.	**(11)** No action required.
(12) Whadjuk sought information from Woodside about how Whadjuk's information would be captured in the EP.	**(12)** Woodside will capture Whadjuk's cultural values and feedback within the EP.	**(12)** Woodside has provided Whadjuk with details of cultural values obtained during consultation for this EP.	**(12)** No action required.

(13) Whadjuk requested information about agreements Woodside has with Traditional Owner groups in the Pilbara including royalties. Whadjuk stated it should have the same agreements in place as Woodside has with Pilbara groups.	**(13)** Woodside notes that it has no agreements relating to EP consultations in the Pilbara and that consultation agreements are not required for effective consultation.	**(13)** Woodside explained that agreements with Pilbara Traditional Owners generally relate to land access and management.	**(13)** No action required.
While feedback has been received, there were no objections or claims.	Woodside has assessed the merits of each objection or claim (if any) about the adverse impact of the activity to which the EP relates, as required under Regulation 24.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	Based on the engagement to date, no additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with Whadjuk for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided Whadjuk with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 8 April 2025, Woodside commenced consultation with Whadjuk on this EP. Woodside provided Whadjuk:

- A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
  - An overview of the activity and proposed timing.
  - Maps showing the location and EMBA.
  - A summary of the risks and impacts of the activity.
  - Diagrams.
  - Details about how to provide feedback.
- The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of Whadjuk's interests and how the activity could impact those interests.
- That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
- Woodside asked Whadjuk to forward the information to its members.
- Woodside offered to provide more specific information, maps and images to Whadjuk, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with Whadjuk on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and Whadjuk have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to Whadjuk during Woodside's initial email on 7 April 2025. Whadjuk was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for Whadjuk's input into how Whadjuk would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with Whadjuk members as well as the Whadjuk Board.
  - Asked Whadjuk to advise how it would like Woodside to engage and whether Whadjuk required further information.
  - Asked Whadjuk if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- During consultation for this EP Whadjuk provided Woodside with details about these cultural values:
  - The coastline has symbolic sites/areas as well as Noongar tracks.
  - Wadjemup (Rottnest Island) is an important spiritual place.
  - Cultural groups are connected; there are affiliated groups/people along the coast to Roebourne.
  - There are Songlines, affiliations to cultural and Sea Country totems and seasonal fishing traditions.
  - Migratory birds are sacred to Whadjuk.
- Woodside has recorded these interests and cultural values in Section 4.9 and assessed potential impact on these, including controls, in Section 6.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.16 Wirrawandi Aboriginal Corporation (WAC)

WAC is established under the *Native Title Act 1993 (Cth)* by the Mardudhunera and Yaburara people to represent the Mardudhunera and Yaburara people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

At the start of consultation, Woodside provided WAC a table of cultural values previously identified for WAC through consultation and reviews of publicly available literature. Woodside invited WAC to make changes or provide additional information about these cultural values. WAC did not request changes.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed WAC advising of the proposed activity (Record of Consultation, reference 6.1.43), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** Marine species – whales, turtles.
    - **(2)** Potential impact of emissions on rock art.
    - **(3)** Underwater and onshore heritage.

- **(1, 2, 3)** A request from Woodside that WAC confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
- A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
- Requested information on how WAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
- That feedback can continue to be accepted by Woodside for the life of the EP.
- A request for WAC to provide information about the proposed activity to other individuals, as required.

- On 7 April 2025, Woodside emailed an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report B, reference 24.1). This brochure was also displayed at a number of locations including Woodside's Roebourne office.
- On 8 April 2025, Traditional Owner members from MAC, NYFL, NAC, Yindjibarndi, WAC and Yawuru attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report B, reference 24.2).
- On 28 April 2025, Woodside emailed WAC a reminder about the proposed activity (SI Report B, reference 16.1). The email included:
  - A reference to the original consultation email for this EP sent to WAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet and listed cultural values previously provided by WAC to Woodside.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how WAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Woodside's commitment to managing gender-restricted or other culturally sensitive information.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- On 16 May 2025, Woodside emailed WAC a reminder about the Quarterly Heritage Meeting scheduled for 4 June 2025 (SI Report B, reference 16.2).
- On 4 June 2025, Woodside hosted its Quarterly Heritage Meeting with Traditional Owners including members of NAC and WAC (SI Report B, reference 25.1). Matters discussed relevant to this EP included:
  - Woodside provided an overview of this EP and the consultation process with relevant First Nations persons.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Value: Marine species: • Whales • Turtles.	**(1)** This value has been identified through Woodside's data collection processes (consultation).	**(1)** At the beginning of consultation for this EP, Woodside provided WAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.43)	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7.

(2) Cultural Value: Potential impact of emissions on rock art.	**(2)** This value has been identified through Woodside's data collection processes (consultation).	**(2)** At the beginning of consultation for this EP, Woodside provided WAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.42).	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Section 6.6.7 (atmospheric emissions).
(3) Cultural Value: Underwater and onshore heritage.	**(3)** This value has been identified through Woodside's data collection processes (consultation).	**(3)** At the beginning of consultation for this EP, Woodside provided WAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.43)	**(3)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7.
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation and / or literature review.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.
Summary Report – Consultation Complete			
Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with WAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically: **Sufficient Information** Sufficient information has been provided because:			

- Woodside has provided WAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with WAC on this EP. Woodside provided WAC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of WAC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked WAC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to WAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with WAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and WAC have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to WAC during Woodside's initial email on 7 April 2025. WAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for WAC's input into how WAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran two targeted social media campaigns (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:

- Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
- Offered for Woodside to speak with WAC members as well as the WAC Board.
- Asked WAC to advise how it would like Woodside to engage and whether WAC required further information.
- Asked WAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

- Woodside invites WAC to monthly luncheons and Quarterly Heritage Meetings.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- WAC did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated WAC's interests and cultural values in Section 4.9 and assessed potential impact on these, including controls, in Section 6.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.17 Yawuru Native Title Holders Aboriginal Corporation (Yawuru)

Yawuru is established under the *Native Title Act 1993 (Cth)* by the Yawuru people to represent the Yawuru people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Yawuru advising of the proposed activity (Record of Consultation, reference 6.1.44), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how Yawuru would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for Yawuru to provide information about the proposed activity to other individuals, as required.
- On 7 April 2025, Woodside emailed an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report B, reference 24.1). This brochure was also displayed at a number of locations including Woodside's Roebourne office.

- On 8 April 2025, Traditional Owner members from MAC, NYFL, NAC, Yindjibarndi WAC and Yawuru attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report B, reference 24.2).
- On 28 April 2025, Woodside emailed Yawuru a reminder about the proposed activity (SI Report B, reference 17.1). The email included:
  - A reference to the original consultation email for this EP sent to Yawuru on 3 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how Yawuru would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP.	Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with Yawuru for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided Yawuru with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with Yawuru on this EP. Woodside provided Yawuru:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.

    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of Yawuru's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked Yawuru to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to Yawuru, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with Yawuru on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and Yawuru have consulted for three months, demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to Yawuru during Woodside's initial email on 7 April 2025. Yawuru was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for Yawuru's input into how Yawuru would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with Yawuru members as well as the Yawuru Board.
  - Asked Yawuru to advise how it would like Woodside to engage and whether Yawuru required further information.
  - Asked Yawuru if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Yawuru did not provide feedback or information during consultation for this EP.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.18 Yindjibarndi Aboriginal Corporation (Yindjibarndi)

Yindjibarndi AC is established under the *Native Title Act 1993 (Cth)* by the Yindjibarndi people to represent the Yindjibarndi people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

For this consultation, Woodside asked Yindjibarndi how it wished to be consulted, if it required support to participate in consultation, whether there are additional persons that Yindjibarndi believed should be consulted and requested that all information shared with Yindjibarndi be cascaded to its members.

Yindjibarndi has requested Woodside refer all correspondence about EPs to the Ngarluma Yindjibarndi Foundation Ltd (NYFL).

This context and process demonstrates that Woodside's consultation approach with Yindjibarndi is appropriate and adapted to the nature and interests of Yindjibarndi.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Yindjibarndi (via NYFL) advising of the proposed activity (Record of Consultation, reference 6.1.45), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how NYFL/Yindjibarndi would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for NYFL/Yindjibarndi to provide information about the proposed activity to other individuals, as required.
- On 7 April 2025, Woodside emailed an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report B, reference 24.1). This brochure was also displayed at a number of locations including Woodside's Roebourne office.
- On 8 April 2025, Traditional Owner members from MAC, NYFL, NAC, Yindjibarndi, WAC and Yawuru attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report B, reference 24.2).
- On 28 April 2025, Woodside emailed NYFL, as a representative of itself and Yinjibarndi a reminder about the proposed activity (SI Report B, reference 18.1). The email included:
  - A reference to the original consultation email for this EP sent to NYFL on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.

- A request for information on how NYFL would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
- Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

- On 28 April 2025, Woodside emailed Yindjibarndi (via NYFL) a missing attachment from its earlier email (SI Report B, reference 18.2).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP.	Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with Yindjibarndi for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided Yindjibarndi with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with Yindjibarndi (via NYFL) on this EP. Woodside provided Yindjibarndi:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of Yindjibarndi's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.

- Woodside asked Yindjibarndi to forward the information to its members.
- Woodside offered to provide more specific information, maps and images to Yindjibarndi if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with Yindjibarndi on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and Yindjibarndi have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to Yindjibarndi during Woodside's initial email on 7 April 2025. Yindjibarndi was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Yindjibarndi has requested Woodside consult with it via NYFL, Woodside has complied with this request.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with Yindjibarndi members as well as the Yindjibarndi Board.
  - Asked Yindjibarndi to advise how it would like Woodside to engage and whether Yindjibarndi required further information.
  - Asked Yindjibarndi if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- Yindjibarndi did not provide feedback or information during consultation for this EP relating to cultural values.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.13.19 Yinggarda Aboriginal Corporation (YAC)

YAC is established under the *Native Title Act 1993 (Cth)* by the Yinggarda people to represent the Yinggarda people (defined broadly by reference to descent from the set of ancestors who were known to have a continuous and unbroken connection as the Traditional Custodians at the time of European colonisation) and represent their communal interests including, among other things, management and protection of cultural values.

Woodside has an existing relationship with YAC which extends prior to consultation for this EP. Woodside's consultation approach for Traditional Owners has a focus on building and maintaining long-term relationships with each group. Woodside has assigned a First Nations Engagement team member as a dedicated focal person for EP consultation with YAC, who is responsible for building a consultative relationship and is readily available to provide information and take feedback. Woodside notes that YAC is represented by a legal representative and therefore Woodside defers consultation material to the legal representative on behalf of YAC.

At the start of consultation, Woodside provided YAC a table of cultural values previously identified for YAC through consultation and reviews of publicly available literature. Woodside invited YAC to make changes or provide additional information about these cultural values. YAC did not request changes. This context and process demonstrates that Woodside's consultation approach with YAC is appropriate and adapted to the nature and interests of YAC.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed YAC (via legal representative) advising of the proposed activity (Record of Consultation, reference 6.1.46), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - Information on the cultural values that Woodside consider relevant to the activity:
    - **(1)** Right and responsibility to speak and care for Country.
    - **(2)** Use of Country for cultural activities – fishing, camping hunting and gathering.
    - **(3)** Health of ecosystems – plants, animals, seagrass is an important food source for dugongs.
    - **(4)** Marine mammals – dugongs, whales (potential impact to migration patterns and potential collisions with vessels).
  - **(1, 2, 3, 4)** A request from Woodside that YAC confirm if there were any changes or additional information regarding cultural values that Woodside should consider in the preparation for this EP.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how YAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for YAC to provide information about the proposed activity to other individuals, as required.
- On 28 April 2025, Woodside emailed YAC (via legal representative) a reminder about the proposed activity (SI Report B, reference 19.1). The email included:

- A reference to the original consultation email for this EP sent to YAC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
- A reminder that consultation for the preparation of this EP closes on 16 May 2025.
- A request for information on how YAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
- Woodside's commitment to managing gender-restricted or other culturally sensitive information.
- Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

- On 28 April 2025, Woodside emailed YAC (via legal representative) a missing attachment from its previous email (SI Report B, reference 19.2)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Cultural Value: Right and responsibility to speak and care for Country.	**(1)** This value has been identified through Woodside's data collection processes (publicly available literature).	**(1)** At the beginning of consultation for this EP, Woodside provided YAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.46). YAC did not request changes.	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7.
(2) Cultural Value: Use of Country for cultural activities: • Fishing • Camping • Hunting and gathering.	**(2)** This value has been identified through Woodside's data collection processes (consultation and publicly available literature).	**(2)** At the beginning of consultation for this EP, Woodside provided YAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.46). YAC did not request changes.	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values.
(3) Cultural Value: Health of ecosystems • Plants and animals.	**(3)** This value has been identified through Woodside's data collection processes (consultation).	**(3)** At the beginning of consultation for this EP, Woodside provided YAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or	**(3)** Woodside has updated Section 4.9 to record these interests and cultural values.

• Seagrass is an important food. source for dugongs.		provide additional information (See ROC, 6.1.46) YAC did not request changes.	These receptors are only predicted to be contacted in the event of a large hydrocarbon spill. Mitigation measures have been included in Section 6.7 of the EP.
(4) Cultural Value: Marine mammals: • Dugongs. • Whales (potential impact to migration patterns and potential collisions with vessels).	This value has been identified through Woodside's data collection processes (consultation).	At the beginning of consultation for this EP, Woodside provided YAC with a list of the cultural values known to Woodside that it believed relevant to the group and invited it to make changes or provide additional information (See ROC, 6.1.46). YAC did not request changes.	Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7.
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation and / or literature review.	Woodside engages in ongoing consultation throughout the life of an EP. Woodside notes that further feedback may be received as part of ongoing consultation. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with YAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided YAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with YAC on this EP. Woodside provided YAC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.

  - Maps showing the location and EMBA.
  - A summary of the risks and impacts of the activity.
  - Diagrams.
  - Details about how to provide feedback.
- The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of YAC's interests and how the activity could impact those interests.
- That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
- Woodside asked YAC to forward the information to its members.
- Woodside offered to provide more specific information, maps and images to YAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with YAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and YAC have consulted for three months demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to YAC during Woodside's initial email on 7 April 2025. YAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

- A reasonable period for consultation in the preparation of this EP has been provided because:
- Woodside asked for YAC's input into how YAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4)
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with YAC members as well as the YAC Board.
  - Asked YAC to advise how it would like Woodside to engage and whether YAC required further information.
  - Asked YAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- YAC did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated YAC's interests and cultural values in Section 4.9 and assessed potential impact on these, including controls, in Section 6.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.14 Native Title representative bodies

4.14.1 Kimberley Land Council (KLC)

KLC is the Native Title Representative Body for the Kimberley region of Western Australia. As such, it is not a Prescribed Body Corporate or Registered Native Title Body Corporate but exists to assist Native Title claimants and holders. Woodside has consulted with KLC in its capacity as a relevant person and also in its capacity as a representative for NKAC.

Summary of information provided and record of consultation for this EP:

On 7 April 2025, Woodside emailed KLC advising of the proposed activity (Record of Consultation, reference 6.1.47), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:

- An overview of the proposed activity.
- Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
- A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
- Requested information on how KLC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
- That feedback can continue to be accepted by Woodside for the life of the EP.
- A request for KLC to provide information about the proposed activity to other individuals, as required.

- On 10 April 2025, Woodside met with KLC briefly and discussed this and another EP. KLC informed Woodside that it did not intend to respond to Woodside's request for feedback (SI Report B, reference 20.1).
- On 28 April 2025, Woodside emailed KLC a reminder about the proposed activity (SI Report B, reference 20.2). The email included:
  - A reference to the original consultation email for this EP sent to KLC on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how KLC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.

Please note, Woodside has also corresponded with KLC in its capacity as a representative for NKAC. Details of this correspondence is included in the Appendix F and SI Reports for this group.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP.	Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with KLC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided KLC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with KLC on this EP. Woodside provided KLC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of KLC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked KLC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to KLC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with KLC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and KLC have consulted for three months demonstrating a “reasonable period” of consultation.
- A consultation period was communicated to KLC during Woodside’s initial email on 7 April 2025. KLC was asked to provide feedback by 16 May 2025 in line with Woodside’s methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for KLC’s input into how KLC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups. KLC stated on 10 April 2025 that it did not intend to provide feedback for this EP.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside’s initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with KLC members as well as the KLC Board.
  - Asked KLC to advise how it would like Woodside to engage and whether KLC required further information.
  - Asked KLC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- KLC did not provide feedback or information during consultation for this EP relating to cultural values.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.14.2 Yamatji Marlpa Aboriginal Corporation (YMAC)

YMAC is the Native Title Representative Body for the Yamatji and Pilbara regions of Western Australia. As such, they are not a Prescribed or Registered Native Title Body Corporate representing the cultural rights of a Traditional Custodian Community but exist to assist native title claimants and holders. Woodside has consulted with YMAC as a relevant person and also in its capacity as a representative for Malgana Aboriginal Corporation and NTGAC.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed YMAC advising of the proposed activity (Record of Consultation, reference 6.1.48), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how YMAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for YMAC to provide information about the proposed activity to other individuals, as required.
- On 28 April 2025, Woodside emailed YMAC a reminder about the proposed activity (SI Report B, reference 21.1). The email included:
  - A reference to the original consultation email for this EP, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how YMAC would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Woodside's commitment to managing gender-restricted or other culturally sensitive information.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- On 1 May 2025, Woodside emailed YMAC to clarify that Woodside was contacting YMAC in its dual capacity as a relevant person for this EP and a representative of other groups (SI Report B, reference 21.2).

Please note, Woodside has also corresponded with YMAC in its capacity as a representative for Malgana Aboriginal Corporation and NTGAC. Details of this correspondence is included in the summaries and SI Reports for these groups.

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP.	Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with YMAC for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided YMAC with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 8 April 2025, Woodside commenced consultation with YMAC on this EP. Woodside provided YMAC:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of YMAC's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked YMAC to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to YMAC, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with YMAC on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and YMAC have consulted for three months, demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to YMAC during Woodside's initial email on 7 April 2025. YMAC was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for YMAC's input into how YMAC would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).

- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with YMAC members as well as the YMAC Board.
  - Asked YMAC to advise how it would like Woodside to engage and whether YMAC required further information.
  - Asked YMAC if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- YMAC did not provide feedback or information during consultation for this EP relating to cultural values.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.15 Self-identified First Nations groups

4.15.1 Ngarluma Yindjibarndi Foundation Ltd (NYFL)

NYFL was created to act as Trustee for the Trust under the Northwest Shelf Agreement 1998 struck between the Ngarluma and Yindjibarndi registered native title claimants, the NWS JVs and Woodside, prior to the resolution of the Ngarluma and Yindjibarndi native title claim. Its purpose is to carry on the business of enterprise development, investment and social welfare.

In 1999 the Ngarluma and Yindjibarndi native title claim was settled with the Federal Court appointing, at the request of the common law native title holders, the NAC as PBC to represent the communal interests of the Ngarluma people and the Yindjibarndi Aboriginal Corporation as PBC to represent the communal interests of the Yindjibarndi people. Woodside consulted both NAC and Yindjibarndi as relevant persons in the course of preparing this EP.

NYFL self-identified and has advised it is relevant for this EP. The Yindjibarndi Aboriginal Corporation has requested all correspondence about EPs be directed to NYFL.

In March 2024, Woodside provided NYFL with the draft terms of a consultation agreement between NYFL and Woodside. Discussions between Woodside and NYFL in relation to finalising this agreement are ongoing and have occurred in parallel to consultation for this EP.

In addition to consultation for specific EPs relevant to NYFL, Woodside also consults NYFL through the Quarterly Heritage meetings and monthly luncheons. Woodside has continually confirmed it is open to receiving or being notified of feedback, claims or objections on EPs.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed NYFL advising of the proposed activity (Record of Consultation, reference 6.1.49), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information, and contact details.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how NYFL would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - That feedback can continue to be accepted by Woodside for the life of the EP.
  - A request for NYFL to provide information about the proposed activity to other individuals, as required.
- **(1)** On 7 April 2025, NYFL emailed Woodside an update about a draft consultation agreement (SI Report B, reference 22.1)
- On 7 April 2025, Woodside emailed NYFL an invitation to share stories and receive updates from Woodside at its Monthly Community Luncheon for Traditional Owners to be held in Roebourne on 8 April 2025 (SI Report B, reference 24.1). This brochure was also displayed at a number of locations including Woodside's Roebourne office.
- On 8 April 2025, Traditional Owner members from MAC, NYFL, NAC, Yindjibarndi, WAC and Yawuru attended Woodside's Monthly Community Luncheon for Traditional Owners held in Roebourne. During the lunch Woodside requested feedback from all attendees about EPs and provided information about the consultation process (SI Report B, reference 24.2).
- **(1)** On 10 April 2025, NYFL emailed Woodside a draft consultation agreement, previously provided by Woodside which incorporated NYFL's changes (SI Report B, reference 22.2)
- On 28 April 2025, Woodside emailed NYFL, as a representative of itself and Yinjibarndi a reminder about the proposed activity (SI Report B, reference 22.3). The email included:
  - A reference to the original consultation email for this EP sent to NYFL on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how NYFL would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- On 28 April 2025, Woodside emailed NYFL/Yindjibarndi a missing attachment from its previous email (SI Report B, reference 22.4).
- **(1)** On 28 April 2025, NYFL emailed Woodside a response to its follow-up email about this EP and another (SI Report B, reference 22.5). NYFL noted it looked forward to progressing the draft consultation agreement.
- On 21 May 2025, Woodside emailed NYFL about another matter unrelated to consultation for this EP (SI Report B, reference 22.6). **(1)** Woodside updated NYFL about its review of NYFL's amendments to the draft consultation agreement and reminded NYFL that consultation for any EPs occurs in parallel to negotiations about the agreement.

- (1) On 15 June 2025, Woodside emailed NYFL amendments to a draft consultation agreement (SI Report B, reference 22.7). In the email Woodside reiterated that consultation for the preparation of environment plans occurs concurrently with agreement negotiations.
- **(1)** On 16 June 2025, NYFL emailed Woodside to acknowledge receipt of Woodside's amendments to a draft consultation agreement (SI Report B, reference 22.8).
- **(1)** On 16 June 2025, NYFL emailed Woodside about an unrelated EP and further confirmed that a consultation agreement is the appropriate framework to engage in consultation and provided availability to discuss the consultation agreement (SI Report, reference 22.9).
- **(1)** On 19 June 2025, NYFL emailed Woodside and advised Woodside's amendments to a draft consultation were under review (SI Report, reference 22.10).
- **(1)** On 3 July 2025, NYFL emailed Woodside in response to an unrelated EP noting that as per an email dated 16 May, NYFL looks forward to finalising the consultation agreement and undertaking consultation in regard to the unrelated EP (SI Report, reference 22.11). Woodside understands that NYFL is referring to correspondence dated 16 June 2025 as outlined above not 16 May.
- (1) On 4 July 2025, Woodside emailed NYFL to state that the preparation of EPs can and does occur concurrently with agreement negotiations (SI Report, reference 22.12).

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) NYFL has acknowledged it supports an agreement to enable a process of consultation.	**(1)** Separate from consultation under Regulation 25 of the Environment Regulations, Woodside is open to engaging with a joint First Nations framework for consultation. Woodside notes that a consultation agreement is not a prerequisite for consultation and consultation for the preparation of environment plans can and does occur concurrently with agreement negotiations (if any). Sufficient information to allow informed assessment has already been provided by other means. Woodside has an existing engagement framework in place with NYFL which enables regular (quarterly) communication.	**(1)** Woodside sent a 7-page draft consultation framework to NYFL in March 2024 for its consideration. In November 2024, Woodside met with NYFL to discuss a number of matters relating to the draft consultation agreement, with NYFL agreeing to provide Woodside with feedback on 7 April 2025, NYFL notified Woodside that it would be sending the draft agreement in due course.	**(1)** Not required.
No feedback, objection or claim about the adverse impact of the activity received despite follow-up.	Woodside engages in ongoing consultation throughout the life of an EP.	Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of	No additional measures or controls are required.

		Change and Revision process (see Section 7.2.8 of this EP).	

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with NYFL for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided, as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided NYFL with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with NYFL on this EP. Woodside provided NYFL:
  - A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:
    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of NYFL's interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside asked NYFL to forward the information to its members.
  - Woodside offered to provide more specific information, maps and images to NYFL, if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with NYFL on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and NYFL have consulted for three months, demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to NYFL during Woodside's initial email on 7 April 2025. NYFL was asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside asked for NYFL's input into how NYFL would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
- Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
- Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Offered for Woodside to speak with NYFL members as well as the NYFL Board.
  - Asked NYFL to advise how it would like Woodside to engage and whether NYFL required further information.
  - Asked NYFL if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- NYFL did not provide feedback or information during consultation for this EP relating to cultural values.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

4.16 Other First Nations groups

4.16.1 Save Our Songlines (SOS) and/ or [Individual 1]

SOS and/ or [Individual 1] do not squarely fall within the consultation categories in the current Woodside methodology and are therefore considered in their own category.

SOS is an organisation formed by [Individual 1] who we currently understand is the group's primary spokesperson. The views expressed by SOS and/ or [Individual 1] are the views expressed by [Individual 1]. In addition, SOS and/ or [Individual 1] are together represented by lawyers from the Environmental Defenders Office (EDO). For all intents and purposes, communication with [Individual 1] is communication with SOS and that is why Woodside has consulted them as one.

SOS and/ or [Individual 1] have stated an interest in opposing the expansion on the Burrup by Woodside and others. In addition, their stated interests include the protection of Murujuga rock art.

It is noted that SOS and/ or [Individual 1] has been a member of Aboriginal corporations who have been separately consulted as relevant persons by Woodside. This is relevant because it confirms that cultural values or interests of those groups have been consulted on and assessed in preparing this EP.

Historical engagement:

During previous consultation for other activities, SOS and/ or [Individual 1] has provided information relating to its cultural values which Woodside deem relevant to this EP:

- **(1)** Threats to Murujuga Rock Art and Cultural Heritage:
  - Emissions, movement and potential damage.
  - Impacts on sites of cultural and spiritual significance.
- **(1)** Woodside has noted the cultural significant of Murujuga Rock Art and assessed risks in the EP.
- **(2)** Cultural and Environmental Significance
  - Songlines, dreaming, and energy lines.
  - Cultural features related to marine life including whales, marine mammals, seagrass, turtles.
  - Importance of the meeting of freshwater and saltwater.
  - Connection to sea country and the sea.
- **(2)** Woodside has recorded matters of cultural and environmental significance in this EP.
- **(3)** Environmental Protection and Cultural Values.
  - Caring for country, significance of eagle, kangaroo, bungarra.
  - Importance of offshore islands, including Rosemary Island.
  - Disturbance of seabed, noise, and pollution.
  - Relationship between environmental protection and cultural values.
- **(3)** Woodside has included matters of cultural and environmental significance in the EP.

Please see Scarborough Offshore Facility and Trunkline (Operations) EP and North West Shelf Phase 1 Plug and Abandonment and TPA03 Well Intervention (Appendix F and SI Report) for further details of this correspondence.

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed SOS and/ or [Individual 1] advising of the proposed activity (Record of Consultation, reference 6.1.50), which included the activity's Summary Information Sheet and a linked Consultation Information Sheet. The email included:
  - An overview of the proposed activity.
  - Links to the NOPSEMA *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, and contact details.
  - A request for feedback by 16 May 2025 for the purposes of preparation of this EP.
  - Requested information on how SOS and/ or [Individual 1] would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.

- That feedback can continue to be accepted by Woodside for the life of the EP.
- A request for SOS and/ or [Individual 1] to provide information about the proposed activity to other individuals, as required.

- On 28 April 2025, Woodside emailed SOS and/ or [Individual 1] a reminder about the proposed activity (SI Report B, reference 23.1). The email included:
  - A reference to the original consultation email for this EP sent to SOS and/ or [Individual 1] on 7 April 2025, which included a Summary Information Sheet and a link to the Consultation Information Sheet.
  - A reminder that consultation for the preparation of this EP closes on 16 May 2025.
  - A request for information on how SOS and/ or [Individual 1] would like to engage with Woodside about the proposed activity, including the opportunity to meet face to face.
  - Woodside's commitment to managing gender-restricted or other culturally sensitive information.
  - Advice that feedback can continue to be provided to Woodside during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA.
- On 28 April 2025, Woodside emailed SOS and/ or [Individual 1] a missing attachment from its previous email (SI Report B, reference 23.2)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Response	Inclusion in Environment Plan
(1) Threats to Murujuga Rock Art and Cultural Heritage: • Emissions, movement and potential damage. • Impacts on sites of cultural and spiritual significance.	**(1)** This value has been identified through Woodside's data collection processes (consultation).	**(1)** The EP assesses direct emissions and indirect atmospheric emissions in Section 6.6.8. No rock art will be moved during this activity. Woodside acknowledges the cultural significance of Murujuga Rock Art.	**(1)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Section 6.6.7 (atmospheric emissions)
(2) Cultural and Environmental Significance: • Song lines, dreaming, and energy lines. • Cultural features related to marine life including whales, marine mammals, seagrass, turtles. • Importance of the meeting of freshwater and saltwater.	**(2)** This value has been identified through Woodside's data collection processes (consultation).	**(2)** Woodside notes these cultural values in Section 4.9 of the EP.	**(2)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7.

• Connection to Sea Country and the sea.			
(3) Environmental Protection and Cultural Values: • Caring for country, significance of eagle, kangaroo, bungarra. • Importance of offshore islands, including Rosemary Island. • Disturbance of seabed, noise, and pollution. • Relationship between environmental protection and cultural values.	**(3)** This value has been identified through Woodside's data collection processes (consultation).	**(3)** Woodside has noted these cultural values in section 4.9 and assessed risks and mitigation measures in Section 6.	**(3)** Woodside has updated Section 4.9 to record these interests and cultural values and assessed the potential impacts on these and where appropriate included controls, in Sections 6.6 and 6.7.
No feedback, objections or claims about the adverse impact of the activity received despite follow-up.	Although no feedback, objections or claims were provided for this EP, historical cultural values considered relevant have been identified and included based on consultation.	Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of this EP).	No additional measures or controls are required.

Summary Report – Consultation Complete

Woodside has discharged its obligations for consultation under Regulation 25 of the Environment Regulations and consultation with SOS and/ or [Individual 1] for the purpose of Regulation 25 is complete. Sufficient information and a reasonable period and reasonable opportunity have been provided as described in Section 5.4 of the EP. Specifically:

Sufficient Information

Sufficient information has been provided because:

- Woodside has provided SOS and/ or [Individual 1] with relevant consultation documents, including NOPSEMA's *Consultation Guidelines, Consultation Brochure, and Draft Policy for Managing Gender-Restricted Information*, informing stakeholders on how consultation is conducted and providing avenues for providing information on sensitive matters.
- In April 2025 Woodside made the Consultation Information Sheet about this EP publicly available on the Woodside website.
- On 7 April 2025, Woodside commenced consultation with SOS and/ or [Individual 1] on this EP. Woodside provided SOS and/ or [Individual 1]:
  – A Summary Information sheet developed specifically for First Nations groups and reviewed by a First Nations staff member. This sheet included:

    - An overview of the activity and proposed timing.
    - Maps showing the location and EMBA.
    - A summary of the risks and impacts of the activity.
    - Diagrams.
    - Details about how to provide feedback.
  - The purpose of consultation, and what was being sought by Woodside through consultation including understanding the nature of SOS and/ or [Individual 1]'s interests and how the activity could impact those interests.
  - That Woodside had undertaken assessments to identify potential impacts and risks to the marine environment and developed mitigation and management measures.
  - Woodside offered to provide more specific information, maps and images to SOS and/ or [Individual 1], if required.

Reasonable Period

A reasonable period for consultation in the preparation of this EP has been provided because:

- Woodside commenced consultation with SOS and/ or [Individual 1] on 7 April 2025 and provided information on the EP on that date. Since then, Woodside and SOS and/ or [Individual 1] have consulted for three months, demonstrating a "reasonable period" of consultation.
- A consultation period was communicated to SOS and/ or [Individual 1] during Woodside's initial email on 7 April 2025. SOS and/ or [Individual 1] were asked to provide feedback by 16 May 2025 in line with Woodside's methodology of a 30-day consultation period. This period enabled Woodside to assess feedback before the EP was submitted.
- Woodside continues to take feedback in relation to the EP.

Reasonable Opportunity

- A reasonable period for consultation in the preparation of this EP has been provided because:
  - Woodside asked for SOS and/ or [Individual 1]'s input into how SOS and/ or [Individual 1] would like to engage in consultation and has consulted in a way that Woodside understands is appropriate for First Nations groups.
  - Woodside has made information on the EP publicly available for over three months. This included publishing advertisements in Indigenous, national, state and local newspapers (Appendix F, reference 6.3).
  - Woodside ran a social media campaign (Appendix F, reference 6.4).
- Woodside's initial email about this EP on 7 April 2025:
  - Included a general email address and telephone number for Woodside as well as a direct email address and telephone number for a dedicated focal person from the Woodside First Nations Engagement team. It also included contact details for NOPSEMA.
  - Asked SOS and/ or [Individual 1] to advise how it would like Woodside to engage and whether SOS and/ or [Individual 1] required further information.
  - Asked SOS and/ or [Individual 1] if it was aware of any other Traditional Custodian groups or individuals with whom Woodside should consult.

Outcomes of Consultation

The measures (if any) that Woodside has adopted or proposes to adopt because of the consultation are appropriate because:

- SOS and/ or [Individual 1] did not provide feedback or information during consultation for this EP relating to cultural values but has done so in consultation for other activities. Woodside has incorporated SOS and/ or [Individual 1]'s interests and cultural values in Section 4.9.
- Woodside engages in ongoing consultation, once an EP has been submitted for assessment as well as throughout the life of an EP. Should feedback be received after the EP has been accepted (including relevant new information on cultural values), it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).

5. TABLE 3: ENGAGEMENT REPORT WITH PERSONS OR ORGANISATIONS ASSESSED AS NOT RELEVANT

The black numbering **(N)** in the 'Summary of information provided and record of consultation for this EP' in Table 3 denotes an item raised by a stakeholder. The green numbering **(N)** in this section denotes Woodside's response to that issue.

5.1 Local government and elected and elected parliamentary representatives, community groups or organisations

5.1.1 Dirk Hartog Island, Naturetime Tours, RAC Monkey Mia Dolphin Resort, Shark Bay Aviation, Shark Bay Coastal Tours, Shark Bay Community Resource Centre, Wula Gula Nyinda Eco Cultural Tours

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Dirk Hartog Island, Naturetime Tours, RAC Monkey Mia Dolphin Resort, Shark Bay Aviation, Shark Bay Coastal Tours, Shark Bay Community Resource Centre, and Wula Gula Nyinda Eco Cultural Tours advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no feedback had been received, Woodside sent a follow-up consultation email. (Record of Consultation, reference 6.2.1)

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).	No additional measures or controls are required.

Outcomes of Consultation

While Dirk Hartog Island, Naturetime Tours, RAC Monkey Mia Dolphin Resort, Shark Bay Aviation, Shark Bay Coastal Tours, Shark Bay Community Resource Centre, and Wula Gula Nyinda Eco Cultural Tours are not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Dirk Hartog Island, Naturetime Tours, RAC Monkey Mia Dolphin Resort, Shark Bay Aviation, Shark Bay Coastal Tours, Shark Bay Community Resource Centre, and Wula Gula Nyinda Eco Cultural Tours to provide feedback during the consultation process.

5.2 Non-government organisations

5.2.1 350 Australia (350A), Australasian Centre for Corporate Responsibility (ACCR), Australian Conservation Foundation (ACF), Australian Marine Conservation Society (AMCS), Climate Council, Conservation Council of Western Australia, Environs Kimberley, Greenpeace Australia Pacific (GAP)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed 350 Australia (350A), Australasian Centre for Corporate Responsibility (ACCR), Australian Conservation Foundation (ACF), Australian Marine Conservation Society (AMCS), Climate Council, Conservation Council of Western Australia, Environs Kimberley, Greenpeace Australia Pacific (GAP) advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).	No additional measures or controls are required.

Outcomes of Consultation

While 350 Australia (350A), Australasian Centre for Corporate Responsibility (ACCR), Australian Conservation Foundation (ACF), Australian Marine Conservation Society (AMCS), Climate Council, Conservation Council of Western Australia, Environs Kimberley, Greenpeace Australia Pacific (GAP) are not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for 350 Australia (350A), Australasian Centre for Corporate Responsibility (ACCR), Australian Conservation Foundation (ACF), Australian Marine Conservation Society (AMCS), Climate Council, Conservation Council of Western Australia, Environs Kimberley, Greenpeace Australia Pacific (GAP) to provide feedback during the consultation process.

5.2.2 Doctors for the Environment Australia (DEA)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed DEA advising of the proposed activity (Record of Consultation, reference 6.1.7), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 7 April 2025, DEA thanked Woodside for email and sought to confirm the consultation timeframe and whether deadline for comment was 16 May 2025 or if it was date to notify intention to provide comment. (SI Report A, reference 22.1)
- On 8 April 2025, Woodside thanked DEA for its question and confirmed that it was seeking feedback by 16 May 2025, for purposes of preparing and including it the EP. (SI Report A, reference 22.2)

Summary of Feedback, Objection or Claim	Woodside's Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).	No additional measures or controls are required.

Outcomes of Consultation

While DEA is not a relevant person under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for DEA to provide feedback during the consultation process.

5.3 Research institutions and local conservation groups

5.3.1 Australian Institute of Marine Science (AIMS), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Curtin University, Western Australian Marine Science Institution (WAMSI), and University of Western Australia (UWA)

Summary of information provided and record of consultation for this EP:

- On 7 April 2025, Woodside emailed Australian Institute of Marine Science (AIMS), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Curtin University, Western Australian Marine Science Institution (WAMSI), and University of Western Australia (UWA) advising of the proposed activity (Record of Consultation, reference 6.1.19), provided a Consultation Information Sheet, and a link to NOPSEMA's brochure 'Consultation on offshore petroleum environment plans: Information for the community'.
- On 30 April 2025, as no response had been received, Woodside proactively sent a follow-up email (Record of Consultation, reference 6.2.1).

Summary of Feedback, Objection or Claim	Assessment of Merits of Feedback, Objection or Claim	Woodside's Statement of Response	Inclusion in Environment Plan
No feedback, objections or claims received despite follow up.		Woodside engages in ongoing consultation throughout the life of an EP. Should feedback be received after the EP has been accepted, it will be assessed and, where appropriate, Woodside will apply its Management of Change and Revision process (see Section 7.2.8 of the EP).	No additional measures or controls are required.

Outcomes of Consultation

While Australian Institute of Marine Science (AIMS), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Curtin University, Western Australian Marine Science Institution (WAMSI), and University of Western Australia (UWA) are not a relevant persons under regulation 25 of the Environment Regulations, Woodside considers it has still provided sufficient information and a reasonable period outside of regulatory requirements for Australian Institute of Marine Science (AIMS), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Curtin University, Western Australian Marine Science Institution (WAMSI), and University of Western Australia (UWA) to provide feedback during the consultation process.

6. RECORD OF CONSULTATION

6.1 Initial consultation

6.1.1 Consultation information sheet

Woodside Energy

Consultation Information Sheet
April 2025

Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan

Carnarvon Basin, North-West Australia

Activity overview

The Okha FPSO Facility Operations Environment Plan (EP) is a five-year revision of the in-force EP, which covers:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Location

- In Commonwealth waters, ~119 km north-west of the town of Dampier **(Figure 2)**.

Water depth

- ~80 m - 125 m deep.

Timing

- Production using the Okha FPSO facility commenced 2011.
- Estimated end of field life is currently anticipated for 2031, subject to reservoir performance.
- Decommissioning is not currently planned during the next 5 years.

Duration

- Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance).
- Vessel-based IMMR activities take place as required.

Joint Venture

- Operator – Woodside Energy Ltd.
- Joint Venture – Chevron Australia Pty Ltd, Woodside Energy (North West Shelf) Pty Ltd, and Jadestone Energy (CWLH) Pty Ltd.

We would like to hear from you

We would like relevant persons whose functions, interests or activities may be affected by the proposed activity to have the opportunity to provide feedback.

Woodside must consult relevant persons when developing an EP to confirm current measures or identify additional measures, which could lessen or avoid potential adverse effects of the proposed activity on the environment.

Woodside aims to ensure the proposed activity is consistent with the principles of ecologically sustainable development, by which the environmental impacts and risks of the activity are reduced to as low as reasonably practicable (ALARP) and to an acceptable level.

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by the activities under this EP, we would like to hear from you by **16 May 2025.**

consultation@feedback.woodside.com
Toll free: 1800 442 977
woodside.com

A summary of the activity and location is found in **Table 1** and **2**.

Figure 1: Okha FPSO

Woodside Energy recognises Aboriginal and Torres Strait Islander peoples as Australia's First Peoples. We acknowledge their connection to land, waters and the environment and pay our respects to ancestors and Elders, past and present. We extend this recognition and respect to First Nations peoples and communities around the world.

Activity Location

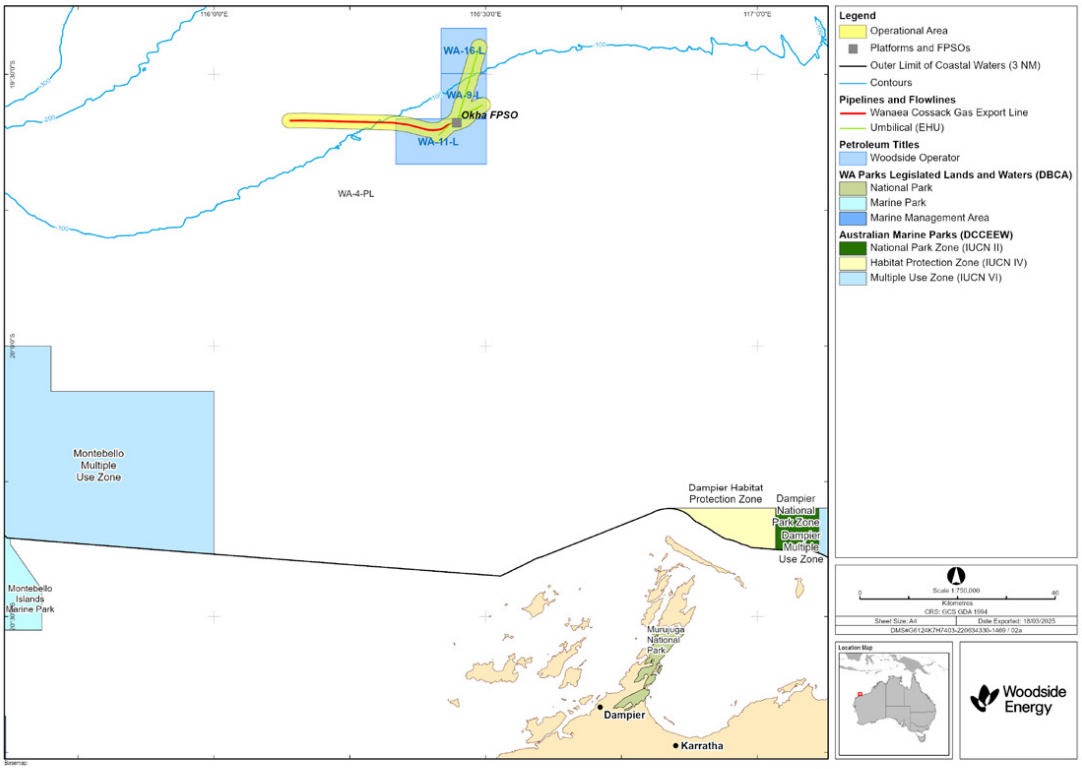


Figure 2. Location of the Okha FPSO Operational Area and associated subsea infrastructure

Table 1 – Activity and location summary

Okha FPSO Facility Operations Environment Plan	
Activity details	• Processing and production of oil and gas. • Oil storage and offloading. • Export of natural gas via the WC GEL. • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity. • Associated facility operations (lifting, bunkering, support vessel and helicopter operations). • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	• Production licenses: WA-11-L, WA-9-L and WA-16-L. • Pipeline license: WA-4-PL.
Infrastructure	• Okha FPSO facility, riser turret mooring system (RTM) and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	• Facility support vessels handle routine operations and offtake support. • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities. • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility extending out to 1500 m to allow for offtake activities. • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m from the infrastructure. • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure. • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.
Communication with mariners	Marine notices will be issued where vessels will be in the Operational Area (but outside the PSZ) for more than 3 weeks. Commercial fishers and other marine users are permitted to use the Operational Area. However, to avoid interactions between vessels and the operations, commercial fishers and marine users are prohibited from entering a 500 m PSZ around the FPSO and riser turret mooring system, unless authorised by Woodside.
Distance to nearest marine park/nature reserve	• Montebello Islands Marine Park (WA) ~100 km south west of the Operational Area. • Montebello Marine Park – Multiple Use Zone (Cth) ~56 km south west of the Operational Area. • Dampier Marine Park – Habitat Protection Zone (Cth) ~88 km south east of the Operational Area.

Table 2 – Approximate locations of key infrastructure within the scope of the Okha FPSO Facility Operations EP

Structure	Water Depth (m)	Latitude	Longitude	Titles
Okha FPSO facility and RTM system	80	19° 35' 20.695"S	116° 26' 48.651"E	WA-11-L
East end of Okha WC GEL (Okha FPSO facility)	76	19°35'20.92"S	116°26'33.75"E	WA-4-PL
West end of Okha WC GEL (North Rankin Complex facility)	125	19°35'07.14"S	116°08'21.88"E	WA-4-PL
Production well and centre locations				
Cossack-4H (CK4)	81	19° 33' 22.909" S	116° 29' 35.754" E	WA-9-L
Wanaea-8 (WA8)	83	19° 34' 40.796" S	116° 26' 59.438" E	WA-9-L
Wanaea-6 (WA6)	82	19° 34' 41.849" S	116° 26' 58.559" E	WA-9-L
Wanaea-7ST1 (WA7)	82	19° 35' 31.586" S	116° 26' 6.622" E	WA-11-L
Wanaea-9ST1 (WA9)	80	19° 36' 45.783" S	116° 24' 45.838" E	WA-11-L
Lambert-4 (LA4)	128	19° 26' 57.820" S	116° 29' 15.427" E	WA-16-L
Lambert-6 (LH6)	128	19° 26' 56.873" S	116° 29' 16.854" E	WA-16-L
Lambert-7 (LA7)	129	19° 26' 57.974" S	116° 29' 18.617" E	WA-16-L
Lambert-3 (LH3)	128	19° 26' 58.469" S	116° 29' 16.227" E	WA-16-L
Suspended wells				
Wanaea-1ST1 (WA1)	82	19° 35' 30.385" S	116° 26' 7.466" E	WA-11-L
Wanaea-2A (WA2)	79	19° 36' 44.588" S	116° 24' 46.054" E	WA-11-L
Wanaea-3 (WA3)	83	19° 34' 41.837" S	116° 27' 0.216" E	WA-9-L
Wanaea-11A (WA11)	81	19° 35' 32.159" S	116° 26' 8.927" E	WA-11-L

Figure 3: Okha FPSO

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities and unplanned events. The EMBA was developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment. The EMBA is depicted in **Figure 4.**

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release. To learn more about an EMBA, please see the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) video on oil spill modelling on its website at www.nopsema.gov.au.

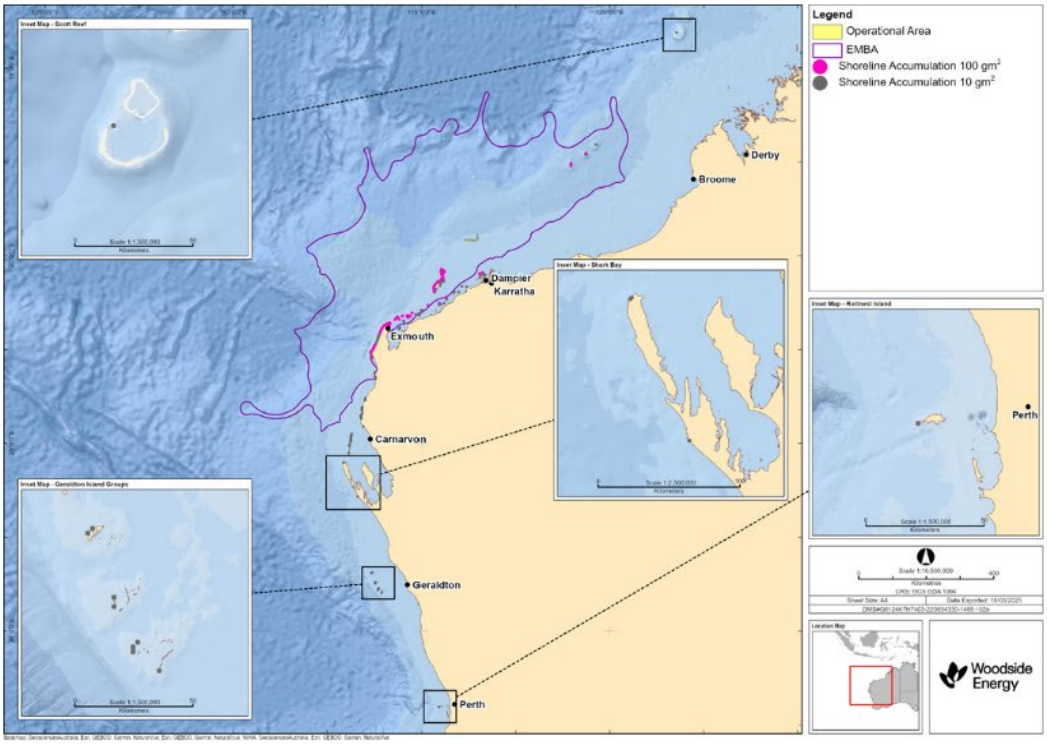


Figure 4. Environment that May Be Affected (EMBA) by the Okha FPSO Facility Operations EP activities.

Impacts/Risks, and Mitigation and/or Management Measures

Woodside assessed the impacts and risks to the environment arising from the planned activities and unplanned events. This assessment considers the timing, duration and location of the activities. Proposed mitigation and management measures are summarised in **Table 3.** Further details will be provided in the EP.

In preparing the EP, Woodside's intent is to minimise environmental, social and cultural impacts and risks associated with the proposed activities, and Woodside seeks your feedback to inform our decision-making.

Table 3 – Summary of key impacts and risks and proposed management measures

Impact/Risk	Description of Source of Impact/Risk	Description of Impact/Risk	Proposed Mitigation and/or Management Measure
Planned activities (routine and non-routine)			
Physical presence: ***interaction with other marine users***	Physical presence of the Okha FPSO and subsea infrastructure as well as support vessels and IMMR vessels.	• Localised displacement or exclusion of commercial fishing operations with no lasting effect. • Localised exclusion of shipping traffic from the PSZ and intermittent IMMR activities with no lasting effect.	• Vessels adhere to regulatory requirements for navigational safety. • Maintain a permanent PSZ around the FPSO. • Notify Australian Hydrographic Office (AHO) of locations of new permanent infrastructures to enable update of maritime charts. • Consult with relevant persons so they are informed of the proposed activities, when vessels will be undertaking activities in Operational Area (but outside the PSZ) for more than three weeks. • FPSO collision prevention system implemented to alert marine vessels of the facility location.
Physical presence: ***disturbance to seabed***	Seabed disturbance may result from the following activities: • Presence of FPSO, wells and subsea infrastructure (Including moorings). • Disturbance during IMMR activities and ongoing presence of suspended infrastructure until end of field life (EOFL). • Anchoring as required in emergency conditions.	Slight and short-term impact to the seabed arising from: • Footprint of subsea infrastructure including suspended infrastructure until EOFL. • Disturbance from directly interacting with the seabed, such as scouring around existing infrastructure or when replacing / installing equipment during IMMR activities. • Indirect disturbance from suspended sediment and sediment deposition due to interactions with the seabed.	• Monitoring and maintenance of all suspended and subsea infrastructure completed as per IMMR process. • ROV surveys undertaken after maintenance or repair activities to confirm temporary equipment has been removed and to record location of any new or suspended subsea infrastructure. • Vessels used for IMMR activities will be dynamic positioning capable. • Comply with regulatory requirements for Underwater Cultural Heritage. • Manage unexpected finds of potential underwater cultural heritage sites/features, including First Nations underwater cultural heritage in accordance with Woodside's Unexpected Finds Procedure. • Train relevant vessel crew about the potential to encounter underwater cultural heritage and their obligation to follow the Unexpected Finds Procedure.
Routine and non-routine acoustic emissions: ***generation of noise during routine operations***	Noise generated within the Operational Area from: • Okha FPSO and associated subsea infrastructure. • Vessels and helicopters. • Vessel-based IMMR activities.	• Localised behavioural impacts to marine fauna around infrastructure and vessels, with no lasting impact.	• Comply with regulatory requirements for interactions with marine fauna. • Environmental induction of all relevant marine crew.
Routine and non-routine discharges	Discharge of hydrocarbons and chemicals during subsea operations of subsea infrastructure and IMMR activities.	• Slight and short-term impact to water quality and marine biota.	• Marine discharges managed in accordance with regulatory requirements. • Assessment of all chemicals used following Woodside's Chemical Selection and Assessment Environment Guideline.
	Discharge of produced water.	• Slight and short-term impact to water quality, marine biota and sediment quality.	• Assessment of all chemicals used following Woodside's Chemical Selection and Assessment Environment Guideline. • Implementation of Woodside's Monitoring and Management Framework.

Impact/Risk	Description of Source of Impact/Risk	Description of Impact/Risk	Proposed Mitigation and/or Management Measure
	Discharges from utility systems and drains associated with the Okha FPSO, support and IMMR vessels including: • Sewage, grey water and organic solid waste. • Deck water, drainage systems and bilge water. • Brine and cooling water.	• Localised impacts to water quality and marine biota with no lasting effect.	• Marine discharges managed according to regulatory requirements. • Assessment of all chemicals used following Woodside's Chemical Selection and Assessment Environment Guideline. • Organic solid waste from the Okha FPSO facility is macerated before overboard discharge under normal operations. • Sewage from the Okha FPSO facility is processed by a sewage treatment plant before discharge under normal operations. • Open hazardous drains systems integrity maintained, and oily water separator pump available to support hydrocarbon recovery from slops tank.
Routine and non-routine atmospheric and Greenhouse Gas (GHG) emissions	Atmospheric and GHG emissions generated through fuel combustion associated with the FPSO, vessels and helicopters, as well as non-routine operational flaring and fugitive emissions (e.g. compressors, generators etc.). Onshore processing of gas, third party transportation, regassification and combustion by end users.	• Emissions could result in temporary and localised reductions in air quality in the immediate vicinity. • Contribution to global GHG emissions.	• Comply with regulatory requirements relating to GHG emissions and reporting. • Monitoring, review and optimisation of facility fuel use and emissions, where possible.
Routine and non-routine light emissions: ***emissions from FPSO, vessel operations and operational flaring***	FPSO, vessels (including IMMR) and remote operated vehicles (ROV) will use external lighting to conduct safe operations. Non-routine light emissions from FPSO during flaring.	• Light emissions have potential to temporarily affect fauna such as fish, marine reptiles and seabirds by influencing changes in their behaviour or impacting orientation in close proximity to the FPSO or vessels.	• Lighting limited to the minimum required for navigational and safety requirements except for emergency events. • Implementation of Woodside's Seabird Management Plan. • Environmental induction of all relevant marine crew.
Unplanned events (accidents / incidents / emergency situations)			
Unplanned hydrocarbon release: ***loss of well containment***	Loss of well containment resulting in release of hydrocarbons to the environment.	Potential severe and long-term impacts: • Long term impacts to sensitive nearshore areas of offshore islands and coastal shorelines. • Disruption to marine fauna including protected species. • Reduction in water quality. • Potential interference with or displacement of other marine users. • Possible exceedance of defined hydrocarbon thresholds for marine sediment. • Potential interference with activities of other regional petroleum operators.	**Preventing loss of well containment** • Wells in compliance with accepted well operation management plan (WOMP) including implementation of barriers to prevent a loss of well control. • Checks completed during well operations to establish minimum acceptable standard of well integrity. **Spill response arrangements** • In the event of a spill emergency response activities implemented in accordance with the Oil Pollution Emergency Plan (OPEP). • Arrangements supporting the activities in the OPEP will be tested so that the OPEP can be implemented as planned.

Impact/Risk	Description of Source of Impact/Risk	Description of Impact/Risk	Proposed Mitigation and/or Management Measure
Unplanned hydrocarbon release: ***subsea infrastructure***	Loss of containment from subsea infrastructure resulting in release of hydrocarbons to the environment.	Potential moderate and medium-term impacts: • Disruption to marine fauna including protected species. • Reduction in water quality. • Potential interference with or displacement of other marine users. • Possible exceedance of defined hydrocarbon thresholds for marine sediment. • Potential interference with activities of other regional petroleum operators.	**Preventing subsea equipment loss of containment** • The activity is operated in compliance with the accepted Safety Case. • Woodside management system is implemented during operations to maintain infrastructure integrity, communication systems and safety instrumented systems to an acceptable standard. **Spill response arrangements** • In the event of a spill, emergency response activities implemented in accordance with the OPEP. • Arrangements supporting the activities in the OPEP will be tested so that the OPEP can be implemented as planned.
Unplanned hydrocarbon release: ***topsides loss of containment***	Topsides loss of containment of the Okha FPSO facility resulting in release of hydrocarbons to the environment.	Potential minor and short-term impacts: • Disruption to marine fauna including protected species. • Reduction in water quality. • Potential interference with or displacement of other marine users. • Possible exceedance of defined hydrocarbon thresholds for marine sediment. • Potential interference with activities of other regional petroleum operators.	**Preventing topsides loss of containment**: • The activity is operated in compliance with the accepted Safety Case. • Woodside management system is implemented during operations to maintain infrastructure integrity, communication systems and safety instrumented systems to an acceptable standard. **Spill response arrangements** • In the event of a spill emergency response activities implemented in accordance with the OPEP. • Arrangements supporting the activities in the OPEP will be tested so that the OPEP can be implemented as planned.
Unplanned hydrocarbon release: ***offtake operations***	Offtake equipment loss of containment resulting in release of hydrocarbons to the environment.	Potential moderate and medium-term impacts: • Disruption to marine fauna including protected species. • Reduction in water quality. • Potential interference with or displacement of other marine users including fisheries and tourism and recreation. • Possible exceedance of defined hydrocarbon thresholds for marine sediment. • Potential interference with activities of other regional petroleum operators.	**Preventing offtake equipment loss of containment**: • The activity is operated in compliance with the accepted Safety Case. • Woodside management system is implemented during operations to maintain infrastructure integrity, communication systems and safety instrumented systems to an acceptable standard. **Spill response arrangements** • In the event of a spill emergency response activities implemented in accordance with the OPEP. • Arrangements supporting the activities in the OPEP will be tested so that the OPEP can be implemented as planned.
Unplanned hydrocarbon release: ***cargo tank loss of containment***	Cargo tank loss of containment resulting in release of hydrocarbons to the environment.	Potential severe and long-term impacts: • Disruption to marine fauna including protected species. • Reduction in water quality. • Potential interference with or displacement of other marine users. • Possible exceedance of defined hydrocarbon thresholds for marine sediment. • Potential interference with activities of other regional petroleum operators.	**Preventing cargo tank loss of containment**: • The activity is operated in compliance with the accepted Safety Case. • Woodside management system is implemented during operations to maintain infrastructure integrity, communication systems and safety instrumented systems to an acceptable standard. **Spill response arrangements** • In the event of a spill emergency response activities implemented in accordance with the OPEP. • Arrangements supporting the activities in the OPEP will be tested so that the OPEP can be implemented as planned.

Impact/Risk	Description of Source of Impact/Risk	Description of Impact/Risk	Proposed Mitigation and/or Management Measure
Unplanned hydrocarbon release: ***loss of structural integrity***	Loss of structural integrity resulting in release of hydrocarbons to the environment.	Potential severe and long-term impacts: • Disruption to marine fauna including protected species. • Reduction in water quality. • Potential interference with or displacement of other marine users. • Possible exceedance of defined hydrocarbon thresholds for marine sediment. • Potential interference with activities of other regional petroleum operators.	**Preventing loss of structural integrity**: • The activity is operated in compliance with the accepted Safety Case. • Woodside management system is implemented during operations to maintain infrastructure integrity, communication systems and safety instrumented systems to an acceptable standard. **Spill response arrangements** • In the event of a spill emergency response activities implemented in accordance with the OPEP. • Arrangements supporting the activities in the OPEP will be tested so that the OPEP can be implemented as planned.
Unplanned hydrocarbon release: ***loss of marine vessel separation***	Loss of marine vessel separation resulting in release of hydrocarbons to the environment.	Potential severe and long-term impacts: • Disruption to marine fauna including protected species. • Reduction in water quality. • Potential interference with or displacement of other marine users. • Possible exceedance of defined hydrocarbon thresholds for marine sediment. • Potential interference with activities of other regional petroleum operators.	**Preventing loss of marine vessel separation**: • Maintain collision warning systems and navigational aids and critical communications systems. • Woodside management system is implemented during operations to maintain infrastructure integrity, communication systems and safety instrumented systems to an acceptable standard. **Spill response arrangements** • In the event of a spill emergency response activities implemented in accordance with the OPEP. • Arrangements supporting the activities in the OPEP will be tested so that the OPEP can be implemented as planned.
Unplanned hydrocarbon release: ***loss of control of suspended load from Okha lifting operations***	Loss of control of suspended load from Okha lifting operations resulting in release of hydrocarbons to the environment.	Potential moderate and medium-term impacts: • Disruption to marine fauna including protected species. • Reduction in water quality. • Potential interference with or displacement of other marine users. • Possible exceedance of defined hydrocarbon thresholds for marine sediment. • Potential interference with activities of other regional petroleum operators.	**Preventing loss of control of suspended load from Okha lifting operations**: • Maintain integrity of Okha FPSO facility lifting equipment. • Woodside management system is implemented during operations to maintain infrastructure integrity, communication systems and safety instrumented systems to an acceptable standard. **Spill response arrangements** • In the event of a spill emergency response activities implemented in accordance with the OPEP. • Arrangements supporting the activities in the OPEP will be tested so that the OPEP can be implemented as planned.
Unplanned release: ***refuelling and chemical transfer, storage and use***	Loss of hydrocarbons and chemical during refuelling and chemical transfer, or from chemical storage and use resulting in release to the environment.	Potential slight and short-term impacts: • Disruption to marine fauna including protected species. • Reduction in water quality.	• Comply with Marine Orders to prevent pollution events. • Subsea infrastructure is managed in accordance with an accepted WOMP during periods where the Okha FPSO facility is disconnected for maintenance at a shipyard. • Implement Woodside's bunkering procedures. • Assessment of all chemicals used following Woodside's Chemical Selection and Assessment Environment Guideline. Woodside chemical assessment process. • Safe storage of diesel and chemicals.
Unplanned release: ***hazardous and non-hazardous solid waste management***	Loss of solid wastes generated by activity vessels including packaging, domestic wastes and hazardous wastes such as oil rags, batteries and waste oil.	Potential slight and short-term impacts: • Disruption to marine fauna including protected species. • Reduction in water and sediment quality.	• Comply with Marine Orders to prevent pollution events. • Implement Woodside's Offshore Facilities Waste Management Plan. • If safe and practicable to do so, solid waste will be recovered.

Impact/Risk	Description of Source of Impact/Risk	Description of Impact/Risk	Proposed Mitigation and/or Management Measure
Physical presence: ***interactions with live infrastructure***	Interaction with live infrastructure.	Potential slight and short-term impacts: • Interference with petroleum activities not covered by the EP, particularly Angel Operations and North Rankin Complex Operations infrastructure.	• Lifting procedures applied to minimise risk of dropped objects. • Simultaneous operations management plan implemented.
Physical presence: ***interactions with marine fauna***	Accidental collision between support vessel and marine fauna.	Potential slight and short-term impacts: • Injury or death to marine fauna (single individual) including protected species.	• Comply with EPBC Regulations 2000 – Part 8 Division 8.1 Interacting with Cetaceans to reduce the likelihood of an accidental collision occurring.
Physical presence: ***introduction of invasive marine species (IMS)***	Vessels transiting to the Operational Area may be subject to marine fouling whereby organisms attach to the vessel hull. Organisms can be drawn into ballast tanks during onboarding of ballast water.	Potential slight and short-term impacts: • Organisms may be released when ballast is discharged during loading of crude oil from FPSO during offtake operations. • Ballast water is exchanged when returning from international waters.	• Ballast water and biofouling will be managed according to the Australian Ballast Water Management Requirements and the Australian Biofouling Management Requirements, as applicable. • Woodside's IMS risk assessment process will be applied to vessels and immersible equipment entering the Operational Area. • Inspection of FPSO by IMS Inspector prior to return from international sail away.

Feedback

Woodside consults relevant persons in the course of preparing Environment Plans to notify them of the activity and to obtain relevant feedback to inform its planning for proposed petroleum activities.

If you would like to comment on the proposed activities outlined in this information sheet, or would like additional information, please contact Woodside before **16 May 2025** via:

consultation@feedback.woodside.com
Toll free: 1800 442 977

You can subscribe on our website to receive Consultation Information Sheets for proposed activities:
woodside.com/what-we-do/consultation-activities

Please note that stakeholder feedback will be communicated to the NOPSEMA as required under legislation. Woodside will communicate any material changes to the proposed activity to affected relevant persons as relevant and appropriate.

Your feedback and our response will be included in our EP for the proposed activity, which will be submitted to NOPSEMA for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth) and support other regulatory processes associated with the planned activities (which may or may not be confidential).

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit:
woodside.com/what-we-do/consultation-activities

6.1.2 Summary information sheet

Woodside Energy

Summary Information Sheet
April 2025

Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan

Carnarvon Basin, North-West Australia

Activity overview

The Okha FPSO Facility Operations Environment Plan (EP) is a five-year revision of the in-force EP, which covers:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Location

- In Commonwealth waters, ~119 km north-west of the town of Dampier (Figure 2).

Water depth

- ~80 m - 125 m deep.

Timing

- Production using the Okha FPSO facility commenced 2011.
- Estimated end of field life is currently anticipated for 2031, subject to reservoir performance.
- Decommissioning is not currently planned during the next 5 years.

Duration

- Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance).
- Vessel-based IMMR activities take place as required.

Joint Venture

- Operator – Woodside Energy Ltd.
- Joint Venture – Chevron Australia Pty Ltd, Woodside Energy (North West Shelf) Pty Ltd, and Jadestone Energy (CWLH) Pty Ltd.

We would like to hear from you

We would like relevant persons whose functions, interests or activities may be affected by the proposed activity to have the opportunity to provide feedback.

Woodside must consult relevant persons when developing an EP to confirm current measures or identify additional measures, which could lessen or avoid potential adverse effects of the proposed activity on the environment.

Woodside aims to ensure the proposed activity is consistent with the principles of ecologically sustainable development, by which the environmental impacts and risks of the activity are reduced to as low as reasonably practicable (ALARP) and to an acceptable level.

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by the activities under this EP, we would like to hear from you by **16 May 2025.**

consultation@feedback.woodside.com
Toll free: 1800 442 977
woodside.com

Figure 1: Okha FPSO

Woodside Energy recognises Aboriginal and Torres Strait Islander peoples as Australia's First Peoples. We acknowledge their connection to land, waters and the environment and pay our respects to ancestors and Elders, past and present. We extend this recognition and respect to First Nations peoples and communities around the world.

Activity location

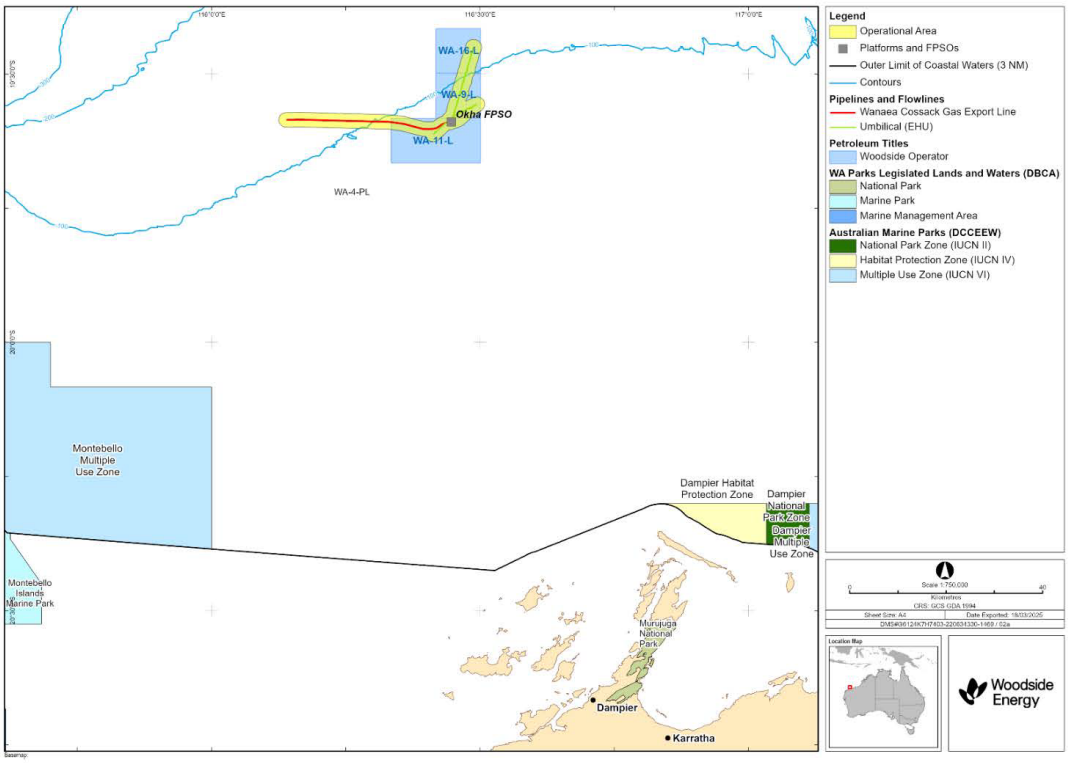


Figure 2. Location of the Okha FPSO Operational Area and associated subsea infrastructure

Environmental Impacts and Management

The work includes planned activities that may impact the environment. Unplanned events, such as accidents, may also result in environmental risks. Woodside manages the work to reduce impacts and risks to as low as reasonably practicable (ALARP) and to an acceptable level.

Planned activities are activities Woodside knows will happen as part of this work program. For example, planned activities include other users of the sea being temporarily stopped from accessing the work area, or the vessels used for the work will generate underwater noise, light emissions, atmospheric emissions, and routine discharges (such as sewage, waste, and deck drainage). These planned activities will comply with legislative and regulatory requirements.

Unplanned events are not planned as part of the work program, but may be the result of an accident, incident or emergency. It is very unlikely that there will be an unplanned event. Unplanned events might include a spill of fuel or oil from a vessel collision, a spill on the deck of a vessel (such as during refueling), unplanned seabed and/or marine life disturbance, waste entering the environment and accidental introduction of invasive species from outside the region.

A table showing all planned and unplanned activities, potential impacts and management measures for each is included in the Consultation Information Sheet (April 2025), which is available here: https://www.woodside.com/what-we-do/consultation-activities

The area over which unplanned events could have environmental impacts is shown in the map below (**Figure 3**). This is referred to as the environment that may be affected (EMBA). The location where the work will be done is known as the Operational Area. The Operational Area is also shown on the maps.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities and unplanned events. The EMBA was developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment. The EMBA is depicted in Figure 3.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release. To learn more about an EMBA, please see the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) video on oil spill modelling on its website at www.nopsema.gov.au.

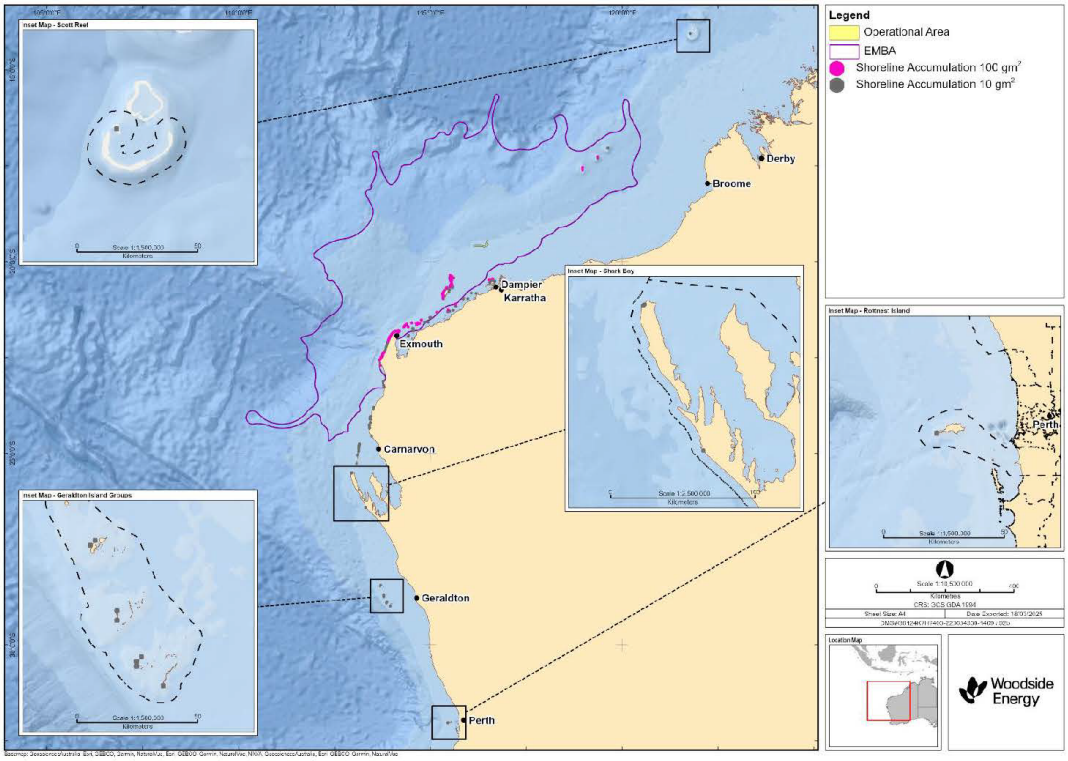


Figure 3. Environment that May Be Affected (EMBA) by the Okha FPSO Facility Operations EP activities.

Feedback

Woodside consults relevant persons in the course of preparing Environment Plans to notify them of the activity and to obtain relevant feedback to inform its planning for proposed petroleum activities.

If you would like to comment on the proposed activities outlined in this information sheet, or would like additional information, please contact Woodside before **16 May 2025** via:

consultation@feedback.woodside.com
Toll free: 1800 442 977

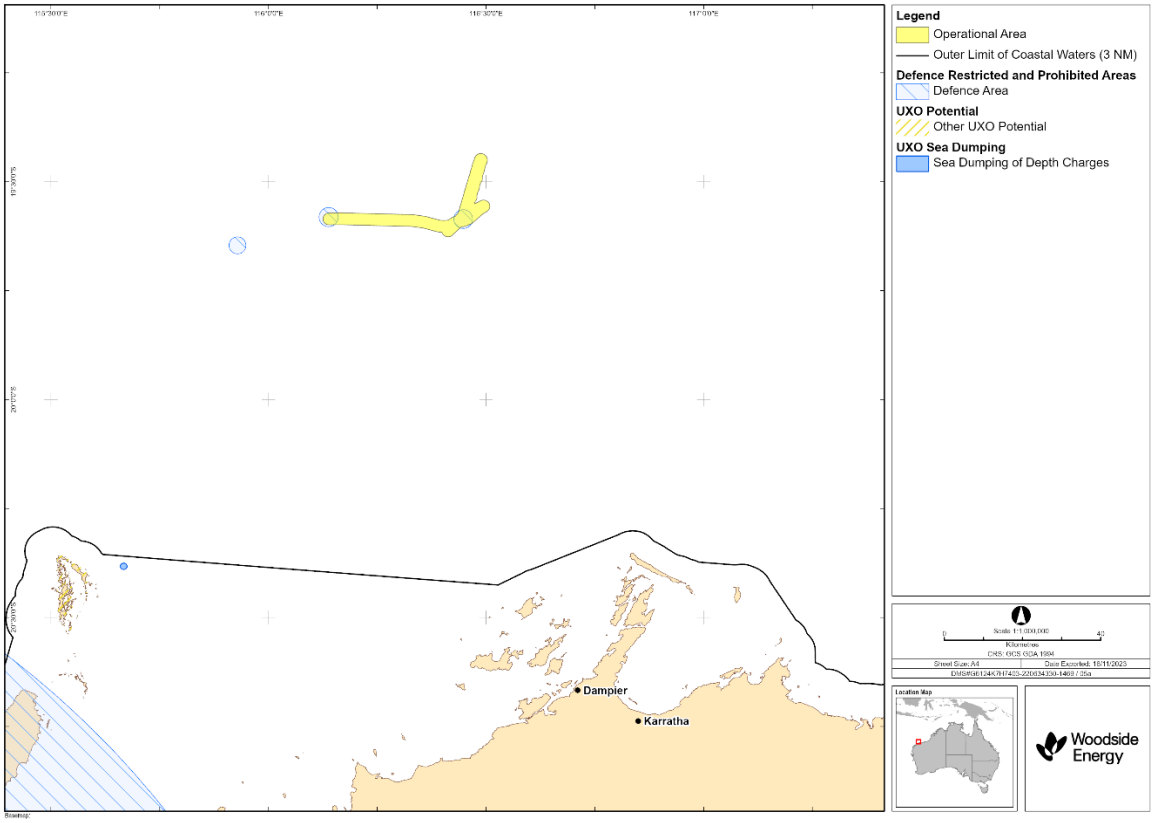
You can subscribe on our website to receive Consultation Information Sheets for proposed activities:
woodside.com/what-we-do/consultation-activities

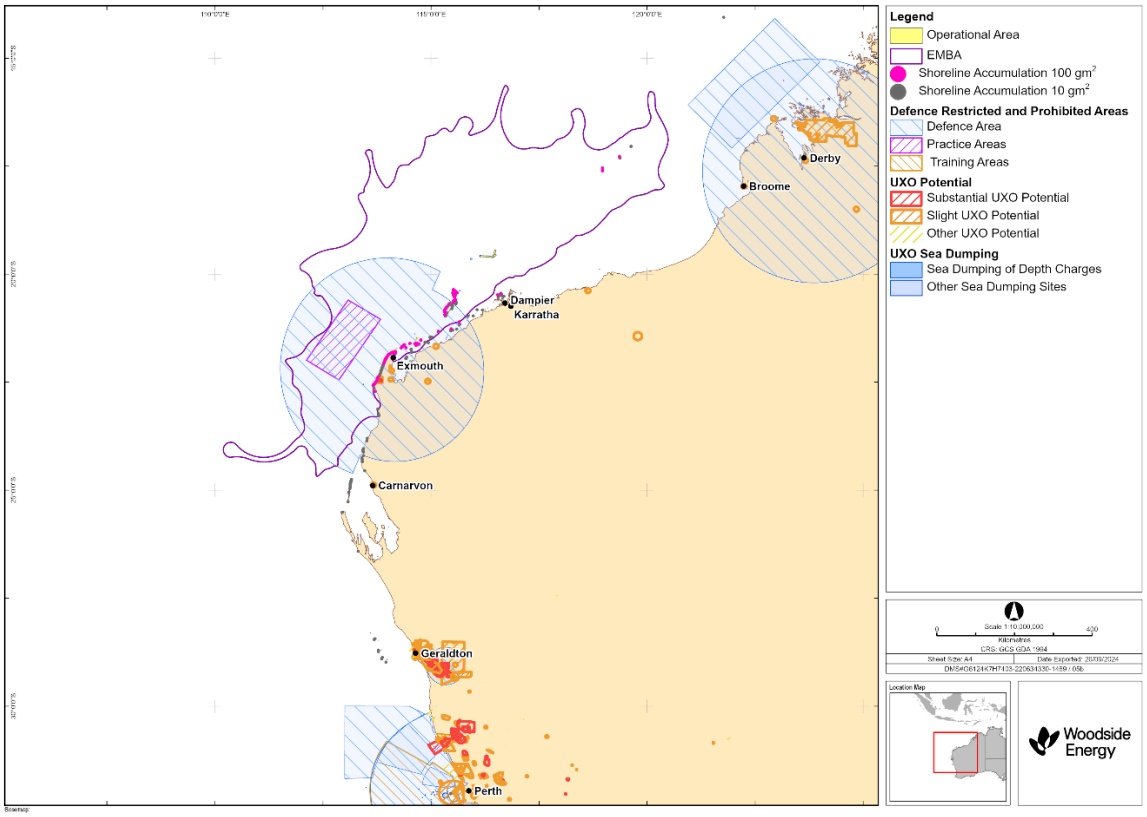
Please note that stakeholder feedback will be communicated to the NOPSEMA as required under legislation. Woodside will communicate any material changes to the proposed activity to affected relevant persons as relevant and appropriate.

Your feedback and our response will be included in our EP for the proposed activity, which will be submitted to NOPSEMA for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth) and support other regulatory processes associated with the planned activities (which may or may not be confidential).

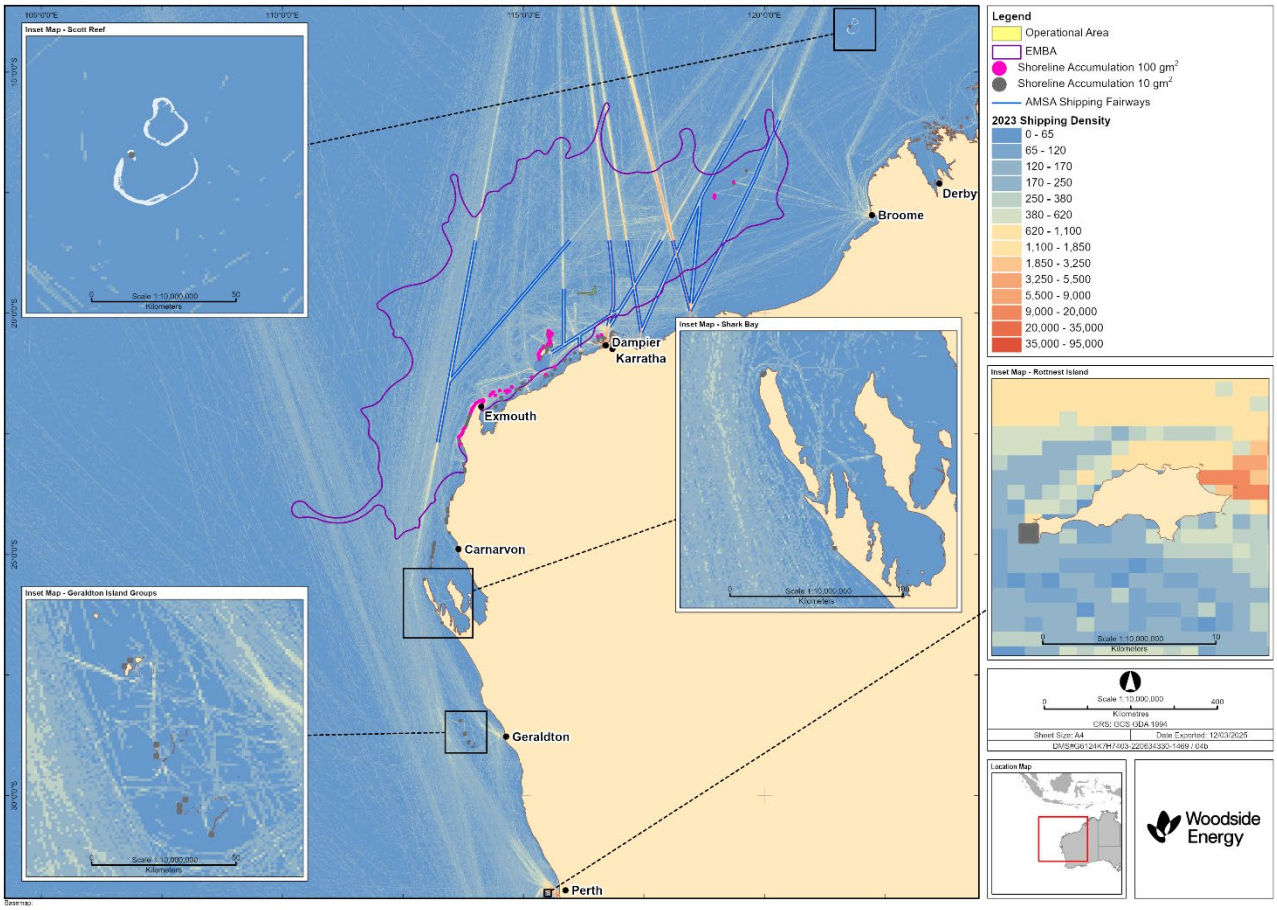
Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit:
woodside.com/what-we-do/consultation-activities.

6.1.3 Defence zones maps





6.1.4 Vessel density map



6.1.5 Shipwrecks

Okha FPSO Facility Operations EP

EMBA and Accumulated Shoreline + Australia Commonwealth Shipwrecks OVERLAP

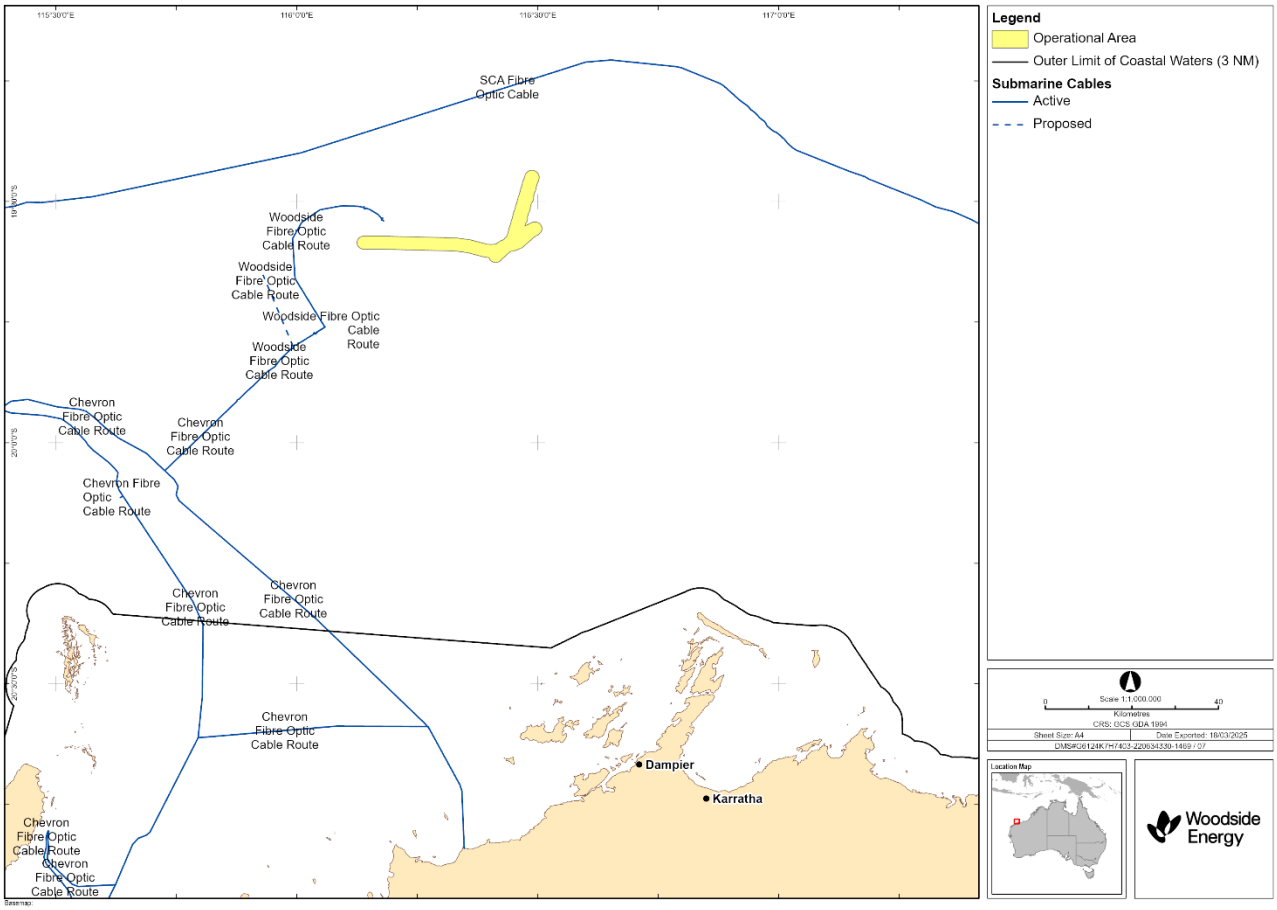
Vessel Name	Vessel Type	When Lost	Where Lost	Latitude	Longitude
Agnes	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Beatrice	Sailing vessel	1899	Off North-West Cape	-21.61666667	113.9833333
Bell	Sailing vessel	1893	Exmouth	-21.75	114.0833333
Bertha	Sailing vessel	1874	Reef off Point Cloates	-22.55	113.5
Chofuku Maru	Twin screw steamer	1931	Point Cloates	-22.51755	113.6629833
Cock Of The North	Sailing vessel	1879	Point Cloates	-22.55	113.5
Curlew	Sailing vessel	1911	At Onslow, Monte Bellos Group	-20	115.1666667
Dampier	Trawler		Enderby Island, Dampier Archipelago	-20.52333333	116.2366667
Don Joseph	Sailing vessel	1899	6.5 Kilometres North of Point Cloates	-22.61666667	113.6
Elizabeth	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Ellen	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Emlyn Castle	Unknown	1960		-21.78472167	114.165
Emma	Sailing vessel	1867	Coral Bay	-23.08255	113.7335
Fairy Queen	Sailing vessel	1875	Exmouth N W Cape	-21.81715	114.1891167
Fin	Single screw steamer	1923	Point Cloates, Fraser Island	-22.6476	113.6282667
Florence	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
G.G.S.	Sailing vessel	1883	Pt Cloates	-22.55	113.5
Gem	Sailing vessel	1893	North West Cape	-21.61666667	113.9833333
Haw Kiet	Unknown	2003		-18.45816667	117.2583333
Hawk	Sailing vessel		Around 55 kilometres south of the Cape at Carba	-22.45	113.73333
Iona	Sailing vessel	1923	Point Cloates, entering Black Rock Passage	-22.8	113.6333333
Kapala	Unknown	1964	Exmouth Gulf	-21.75	114.0833333
Kiryo Maru	Trawler	1984	Cathedral Rocks, Rottnest Island	-32.020345	115.449514
Lady Ann	Sailing vessel	1982	24 miles north of NW Cape	-21.4	114.2
Lamareaux	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Leave	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Lily Of The Lake	Sailing vessel	1875	Exmouth Gulf	-21.75	114.0833333
Lively	Sailing vessel	1810	Mermaid Reef, Rowley Shoals	-17.08968333	119.5915
Mabel	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Maratta	Unknown	1905		-20.72783333	115.4261167
Marietta	Unknown	1905	Barrow Island	-20	115.1666667
Marutta	Unknown	1905		-20.72783333	115.4261667
Mauds Landing				-23.113944	113.775461
McCormack		1989	N.E. tip of Eaglehawk Island West of Dampier,	-20.13666667	115.9533333
McDermott Derrick Barge No 20	Barge	1989	N.E. tip of Eaglehawk Island, Dampier Archipelag	-20.13666667	115.9533333
Mildura	Twin screw steamer	1907	North-West Cape	-21.784092	114.167735
Nellie	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Norwegian Bay Unidentified Barge	Barge		Off Norwegian Bay Whaling Station	-22.592436	113.670572
Norwegian Bay Whaling Station boat		1990	10 m N of whaling station jetty	-22.59274583	113.6715683
Occator	Sailing vessel	1856	Around 55 kilometres south of the Cape at Carba	-22.41666667	113.6833333
Olive	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Parks Lugger	Sailing vessel		Hermite Island. Montebello Islands	-20.477082	115.528518
Pearl	Sailing vessel	1896	Exmouth Gulf, Meda Creek	-21.75	114.0833333
Perentie	Unknown	1976	Barrow Island	-20.72783333	115.4261667
Perth	Twin screw steamer	1887	Point Cloates	-22.69246667	113.6422667
Plym HMS	Frigate	1952		-20.40346667	115.5658333
Queen	Sailing vessel	1891	Off Point Cloates	-22.55	113.5
Rose	Sailing vessel	1908	Ashburton	-21.58333333	114.8333333
Ruby	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
S.S.S.	Unknown	1901	Off Point Cloates	-22.65	113.5833333
Sea Queen	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Shunsei Maru	Unknown	1931	Carbaddaman Passage, north of Point Cloates	-22.41666667	113.6833333
Smuggler	Sailing vessel	1893	Exmouth Gulf	-21.75	114.0833333
Strathmore	Sailing vessel	1870	Point Cloates	-22.55	113.5
Tanami	Sailing vessel		Trial Rocks	-20.28333	115.36666
Trial	Sailing vessel	1622	Trial Rocks	-20.28598333	115.3752333
Tropic Queen		1975		-20.43333333	115.5008333
Unidentified Lugger	Unknown	1893	Exmouth Gulf	-21.75	114.0833333
Veronica	Sailing vessel	1928	Sunday Island, Exmouth Gulf	-21.68333333	114.3833333
Vianen	Sailing vessel	1628	Barrow Island Area	-20	115.1666667
Wild Wave	Sailing vessel	1875	Exmouth Gulf	-21.75	114.0833333
Wild Wave (China)	Sailing vessel	1873	Monte Bello Island	-20	115.1666667
Wyndham	Sailing vessel	1910	Point Cloates	-22.55	113.5
Zvir	Twin screw steamer	1902	Point Cloates	-22.60916667	113.626

Okha FPSO Facility Operations EP

EMBA and Accumulated Shoreline
+ State Historical Shipwrecks OVERLAP

Vessel Name	Type of Ship	When Lost	Where Lost	Latitude	Longitude
Cock of the North	Ketch (Aux)	1879/05/07	20 km north of Geraldton	22°33	113°30
Bertha	Cutter	1874/07/20	Reef off Point Cloates	22°33	113°30
Chofuku Maru	Steamer screw	2/05/1931	Point Cloates	22°31.053	113°39.779
Curlew	Lugger	2/07/1911	At Onslow, Monte Bellos Group	20°00	115°10
Dampier		unknown	Enderby Island, Dampier Archipelago	20°31.4	116°14.2
Don Joseph	Lugger	1899/04/30	5-7 NM south of Point Cloates	22°37	113°36
Emlyn Castle		1960		21°47.0833	114°09.9
Emma	Schooner	1867/03	Coral Bay	23°04.953	113°44.010
Experimental shell pool	Other		North Delta Island, Monte Bello Islands	20°25.910546	115°32.605015
Fairy Queen ex Rhio	Brigantine	1875/10/08	Northwest Cape	21°49.029	114°11.347
Fin	Steamship	1/15/1923	Point Cloates, Fraser Island	22°38.856	113°37.696
G.S.S.	Lugger	1883	Pt Cloates	22°33	113°30
Gem	Lugger	1893/03/25	North West Cape	21°37	113°59
Haw Kiet		2003		18°27.49	117°15.5
Kiryo Maru	Fishing Boat	8/06/1984	Cathedral Rocks, Rottnest Island	32°01.2207	115°26.97084
Lady Ann	Ship (non-sail)	9/18/1982	24 miles north of NW Cape	21°24	114°12
Lively	Ship	1806?07	Mermaid Reef, Rowley Shoals	17°05.381	119°35.490
Maratta		1905		20°43.67	115°25.567
Marietta		2/08/1905	Barrow Island	20°00	115°10
Marutta		1905		20°43.67	115°25.57
Mauds Landing		unknown		23°06.83664	113°46.52766
McCormack	Barge	1989/10/00	N.E. tip of Eaglehawk Island West of Dampier, Dampier Archipelago	20°08.200	115°57.200
McDermott Derrick Barge No 20	Barge	10/20/1989	N.E. tip of Eaglehawk Island, Dampier Archipelago	20°08.200	115°57.200
Mildura	Steamer	1166	North-West Cape	21°47.04552	114°10.0641
Norwegian Bay Unidentified Barge		unknown	Off Norwegian Bay Whaling Station	22°35.54616	113°40.23432
Norwegian Bay Whaling Station boat	Boat	1990	10 m N of whaling station jetty	22°35.56475	113°40.2941
Occator	Brigantine	1856/02/09	Around 55 kilometres south of the Cape at Carbaddaman Passage	22°25	113°41
Parks Lugger		unknown	Hermite Island. Montebello Islands	20°28.62492	115°31.71108
Pelsart (Pelsaert)	Cutter	10/15/1908	12 miles Northwest of Imperieuse Reef, Rowley Shoals	17°34	118°35
Perentie		11/08/1976	Barrow Island	20°43.67	115°25.57
Perth	Steamship	1887/09/17	Point Cloates	22°41.548	113°38.536
Plym HMS	Warship	17808	Trimouille Island Island	20°24.208	115°33.950
Queen	Cutter	1892/01/25	Off Point Cloates	22°33	113°30
See Taube		1954	North-east of Rowley Shoals	17°00	118°45
Shunsei Maru		2/05/1931	Carbaddaman Passage, north of Point Cloates	22°25	113°41
Strathmore	Barque	1870	Point Cloates	22°33	113°30
Tantabiddi Lagoon Admiralty anchor			Tantabiddi Lagoon	21 54.843	113 57.779
Trial	Ship	1622/05/24	Trial Rocks	20°17.159	115°22.514
Tropic Queen		4/09/1975		20°26	115°30.05
Veronica	Lugger	1928/07	Sunday Island, Exmouth Gulf	21°41	114°23
Vianen	Ship	1628/01/25	Barrow Island Area	20°00	115°10
Wild Wave (China)	Brig	1873/08/30	Monte Bello Island	20°00	115°10
Wyndham	Schooner	1/26/1910	Point Cloates	22°33	113°30
Zvir	Steamship	11/27/1902	Point Cloates	22°36.55	113°37.56

6.1.6 Submarine communication cables map



6.1.7 Email sent to 350 Australia (350A), 3D Energi Limited, Allasso Energy, Australasian Centre for Corporate Responsibility (ACCR), Australian Border Force (ABF), Australian Conservation Foundation (ACF), Australian Energy Producers (AEP), Australian Marine Conservation Society (AMCS), Australian Maritime Safety Authority (AMSA) – Marine Pollution, BP, Beagle No. 1, Bounty Oil and Gas, Broome Chamber of Commerce and Industry (BCCI), Cape Conservation Group (CCG), Carbon CQ, Carnarvon Chamber of Commerce and Industry, Carnarvon Energy Ltd, City of Cockburn, City of Greater Geraldton, City of Karratha, Clean Energy Regulator (CER), Climate Council, Coastal Oil and Gas, Conservation Council of WA (CCWA), Department of Mines, Petroleum and Exploration (DMPE) (formerly known and consulted as Department of Energy, Mines, Industry Regulation and Safety (DEMIRS)), Department of Industry, Science and Resources (DISR), Dirk Hartog Island, Doctors for the Environment Australia (DEA), Energy Resources Limited (Part of Mineral Resources), Environs Kimberley, Exmouth Chamber of Commerce and Industry (CCI), Exmouth Community Liaison Group, Finder Energy, Friends of Australian Rock Art (FARA), Greenpeace Australia Pacific (GAP), INPEX (EP), JX Nippon, Jadestone Energy, KATO Energy (WA), KUFPEC, Karratha & Districts Chamber of Commerce and Industry (KDCCI), Karratha Community Liaison Group, Kyushu Electric Wheatstone, Melville Cockburn Chamber of Commerce and Industry, Mobil, Naturetime Tours, Ningaloo Coast World Heritage Advisory Committee (NCWHAC), OMV Australia, OPIC Australia Pty Limited, Onslow Chamber of Commerce and Industry, PE Wheatstone, Pathfinder Energy, Pelsart Resources N.L., Pilbara Ports Authority (PPA), Protect Ningaloo, RAC Monkey Mia, SK Earthon, Santos, Shark Bay Aviation, Shark Bay Coastal Tours, Shark Bay Community Resource Centre, Shell, Shire of Broome, Shire of Carnarvon, Shire of Exmouth, Shire of Shark Bay, Skye Napoleon Pty Ltd, Tanami Energy, Vermilion Energy, Western Gas, Wula Gura Nyinda Eco Cultural Tours – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the Environment Plan made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

NOPSEMA has published the brochure *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our website.

6.1.8 Email sent to Department of Defence (DoD) – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

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Consultation information

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Please also find defence area maps in the areas surrounding the Operational Area.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
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Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the Environment Plan made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

NOPSEMA has published the brochure *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

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6.1.9 Email sent to Australian Communications and Media Authority (ACMA) – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Please also find attached a map of the submarine communication cables in the vicinity of the Operational Area. There are no Telstra or Vocus cables in the vicinity of the Operational Area.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

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6.1.10 Email sent to Australian Hydrographic Office (AHO) – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Please also find attached a vessel density map and a GIS Shape File.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

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6.1.11 Email sent to Australian Maritime Safety Authority (AMSA) – Marine Safety – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Please also find attached a vessel density map and a GIS Shape File.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Notifications

Please note that Woodside will:

- Notify the AHO no less than 4 weeks before operations commence [where vessel activities are to be undertaken for more than three weeks at a time in the Operational Area but outside the Petroleum Safety Zone
- Notify AMSA's Response Centre (ARC) at least 24-48 hours before operations commence [where vessel activities are to be undertaken for more than three weeks at a time in the Operational Area but outside the Petroleum Safety Zone
- Provide updates to both the AHO and AMSA on any material changes to planned activities
- Ensure vessels exhibit appropriate lights and shapes to reflect the nature of operations and the obligation to comply with the International Rules for Preventing Collisions at Sea (COLREGS)
- Evaluate and implement adequate anti-collision measures including but not limited to additional warnings and/or lights to attract attention and installation of Automatic Identification System (AIS) units.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

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6.1.12 Email sent to Australian Fisheries Management Authority (AFMA), Commonwealth Fisheries Association (CFA), North West Slope Trawl Fishery, Tuna Australia, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production

Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

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and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Commonwealth fisheries

Commonwealth fisheries active in the Operational Area:

- None

Commonwealth fisheries active in the EMBA:

- North West Slope Trawl Fishery
- Western Deepwater Trawl Fishery
- Western Tuna and Billfish Fishery

Please note that Woodside has provided consultation information directly to licence holders it has assessed as 'relevant persons' for this EP, as well as relevant fishery representative bodies.

Notifications

Please let us know if you require notification prior to and on completion of the proposed activities.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

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6.1.13 Email sent to Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity, Marine Pests, Vessels, Aircraft and Personnel, Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

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Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
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Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
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Commonwealth fisheries

Commonwealth fisheries active in the Operational Area:

none

Commonwealth fisheries active in the EMBA:

- North West Slope Trawl Fishery
- Western Deepwater Trawl Fishery
- Western Tuna and Billfish Fishery

Please note that Woodside has provided consultation information directly to licence holders it has assessed as 'relevant persons' for this EP, as well as relevant fishery representative bodies.

Biosecurity

With respect to the biosecurity matters, please note the following information below:

Environment description	
The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia. Water depths range from approximately 80 m - 125 m deep. The proposed activities are outside the boundaries of a proclaimed Australian Marine Park (AMP), with the closest activities located approximately 56 km to the north east of the Montebello Marine Park – Multiple Use Zone.	
Potential IMS risk	IMS mitigation management
Vessels are potential vectors for introducing invasive marine species (IMS) during the Petroleum Activity. IMS introduction is highly unlikely, however may be introduced to the Operational Area through: • Transfer of IMS from the infected vessel to and subsequent establishment on the Okha FPSO facility • Transfer of IMS when the Okha FPSO facility is disconnected and returns to the Operational Area from the shipyard.	Ballast water and biofouling will be managed according to the Australian Ballast Water Management Requirements and the Australian Biofouling Management Requirements, as applicable. Woodside's IMS risk assessment process will be applied to vessels and immersible equipment entering the Operational Area. Based on the outcomes of each IMS risk assessment, management measures commensurate with the risk (such as the treatment of internal systems, IMS inspection or cleaning) will be implemented to minimise the likelihood of introducing IMS.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback

may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the Environment Plan made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

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6.1.14 Email sent to Director of National Parks (DNP) – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Australian Marine Parks (AMPs)

We note Australian Government Guidance on consultation activities and confirm that:

- The proposed activities are outside the boundaries of a proclaimed Australian Marine Park (AMP), with the closest activities located approximately 56 km to the north east of the Montebello Marine Park – Multiple Use Zone.
- We have assessed potential impacts to AMPs in the development of the Okha FPSO Facility Operations Environment Plan five-year revision and consider that there are no credible risks as part of planned activities that have potential to impact the values of the AMPs.
- The worst-case credible spill scenario access in this EP is cargo tank loss of containment. Through review of hydrocarbon spill modelling, and with consideration of a 10 ppb dissolved and 1000 ppb entrained hydrocarbon threshold, the following AMPs may be contacted in the event of a spill:
  - Montebello
  - Argo-Rowley Terrace
  - Gascoyne
  - Mermaid Reef
  - Ningaloo
  - Shark Bay
- A Commonwealth Government-approved oil spill response plan will be in place for the duration of the activities, which will include notification to relevant agencies and organisations as to the nature and scale of the event, as soon as practicable following an occurrence. The Director of National Parks will be advised if an environmental incident occurs that may impact the values of any AMP.

Woodside is aware of and will consider the *'Petroleum Activities and Australian Marine Parks'* guidance note developed and published jointly by DNP and NOPSEMA, while preparing this EP to ensure that the EP:

- Identifies and manages all impacts and risks on AMP values (including ecosystem values) to an acceptable level and has considered all options to avoid or reduce them to as low as reasonably practicable (ALARP).
- Clearly demonstrates that the activities will not be inconsistent with the North-west Marine Parks Network Management Plan 2018.

If there is a change in activities which results in an overlap or new impact to a marine park Woodside will notify DNP.

Feedback

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6.1.15 Email sent to Department of Transport and Major Infrastructure (DTMI) (formerly known and consulted as Department of Transport (DoT)) – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

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Consultation information

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Activity and location summary

Okha FPSO Facility Operations Environment Plan

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Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
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The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

If there is a risk of a spill impacting State waters, Woodside will further consult the Department of Transport as outlined in the Department of Transport Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements (July 2020).

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

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6.1.16 Email sent to Department of Primary Industries and Regional Development (DPIRD), – 07 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

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Overview

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- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
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and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

State fisheries

State fisheries active in the Operational Area:

- Mackerel Managed Fishery (Area 2),
- Pilbara Trawl Managed Fishery
- Pilbara Trap Managed Fishery
- Pilbara Line Fishery

State fisheries active in the EMBA

- Abalone Managed Fishery
- Abrolhos Islands and Mid West Trawl Managed Fishery
- Exmouth Gulf Prawn Managed Fishery
- Gascoyne Demersal Scalefish Managed Fishery
- Mackerel Managed Fishery (Area 2)
- Marine Aquarium Fish Managed Fishery
- Nickol Bay Prawn Managed Fishery
- Northern Demersal Scalefish Managed Fishery
- Octopus Interim Managed Fishery
- Onslow Prawn Managed Fishery
- Pilbara Crab Managed Fishery
- Pilbara Fish Trawl Managed Fishery
- Pilbara Line Fishery
- Pilbara Trap Managed Fishery
- Shark Bay Crab Managed Fishery
- Shark Bay Prawn Managed Fishery
- Shark Bay Scallop Managed Fishery
- South West Trawl Fishery
- Specimen Shell Managed Fishery
- West Coast (Beach Bait Fish Net) Managed Fishery
- West Coast Deep Sea Crustacean Managed Fishery
- West Coast Demersal Gillnet and Demersal Longline Fishery
- West Coast Demersal Scalefish Managed Fishery

- West Coast Purse Seine Fishery
- West Coast Rock Lobster Managed Fishery (we contacted Western Rock Lobster Council and fisheries directly)
- Aquaculture sites and Pearling Farm leases (we contacted ACWA)

Please note that Woodside has provided consultation information to the Western Australian Fishing Industry Council (WAFIC), Aquaculture of Western Australia and Recfishwest. Information provided to these bodies includes the planned timing and duration of the activities, and the spatial extent of the proposed activities (including any exclusion zones).

Woodside consults individual fishing license holders based on WAFIC's guidance and advice, whereby WAFIC:

– directly consults fishery licence holders that are assessed as having a potential for interaction in the Operational Area

– consults fisheries that are assessed as having a potential for interaction in the EMBA only in the event of an unplanned emergency scenario.

Woodside also consults with relevant Traditional Owners in the preparation of this EP.

Spill Contingency Plans

Within Woodside's Oil Pollution First Strike Plan (FSP), Woodside commits to notifying DoT within 2 hours of becoming aware of a marine pollution incident that occurs in or may impact State waters. Woodside also consults DoT in the development of the FSP.

Woodside commits to notify DPIRD within 24 hours of our reporting the incident to the appropriate authority. We have noted this contact as environment@dpird.wa.gov.au and placed this in the Notification section of the FSP.

In addition, within the FSP, Woodside commits to identify and notify additional relevant persons and organisations such as, but not limited to, commercial fishers or tourism operators that may be affected during a spill event. Woodside would, at the relevant time, engage with these parties as appropriate and will re-assess relevant persons and organisations throughout the response period.

Woodside mitigates the risk of spill events through the adoption of a range of preventative controls (including engineering design) that all contribute to reducing the likelihood of a spill event to an unlikely level. The potential for hydrocarbons to reach the Pilbara coast would be further minimised in the event of a spill by offshore response actions. Such responses would be aimed at reducing hydrocarbon contact with sensitive coastal areas, including commercially important fish species spawning and aggregation areas.

Woodside's oil spill Operational and Scientific Monitoring (OSM) Program is executed under the Joint Industry OSM Framework (AEP, 2021). In the event of a spill, the OSM Framework will guide the situational awareness and response as well as undertake a suite of comprehensive science-based monitoring programs to evaluate environmental damage. One such program is dedicated to the impacts on fisheries. The fisheries impact assessment has two objectives – to assess any physiological impacts to important fish and shellfish species and to assess targeted fish and shellfish species for hydrocarbon contamination.

Biosecurity

Woodside contracts support and IMMR vessel services for the petroleum activity described in the EP. Woodside works closely with contractors to ensure compliance with all requirements previously requested by DPIRD including DPIRD's policy that marine pests or disease are reported within 24 hours. A 24-hour notification will be formally captured as a notification within the EP and communicated to vessel operators.

All vessels are required to comply with the Australian Biosecurity Act 2015, specifically the Australian Ballast Water Management Requirements (as defined under the Biosecurity Act 2015) (aligned with the International Convention for the Control and Management of Ships' Ballast Water and Sediments) to prevent introducing invasive marine species (IMS). Vessels will be assessed and managed to prevent the introduction of invasive marine species in accordance with Woodside's Invasive Marine Species Management Plan.

Woodside's Invasive Marine Species Management Plan includes a risk assessment process that is applied to vessels undertaking activities. Based on the outcomes of each IMS risk assessment, management measures commensurate with the risk (such as the treatment of internal systems, IMS inspections or cleaning) will be implemented to minimise the likelihood of IMS being introduced.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

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6.1.17 Email sent to Gascoyne Recreational Marine Users, Marine Tourism WA, Pilbara/Kimberley Recreational Marine Users, Recfishwest, WA Game Fishing Association, Western Rock Lobster Council – 7 April 2025

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Regards.

6.1.18 Letter sent to Gascoyne Recreational Marine Users, Pilbara/Kimberley Marine Users, West Coast Recreational Marine Users, West Coast Rock Lobster Fishery, – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is enclosed, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form at www.woodside.com/what-we-do/consultation-activities by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

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6.1.19 Email sent to Australian Institute of Marine Science (AIMS), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Curtin University, University of Western Australia (UWA), Western Australian Marine Science Institution (WAMSI) – 07 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

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Overview

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- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Woodside is seeking your advice regarding any research activities that your institution may be undertaking that may overlap with our proposed activities.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
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Water depth	Approximately 80 m - 125 m deep.
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Feedback

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6.1.20 Email sent to Department of Climate Change, Energy, the Environment and Water (DCCEEW) – 7 April 2025

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Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Please also find attached the details of Commonwealth shipwrecks that are relevant for this EP.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
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Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

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Feedback

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6.1.21 Email sent to Department of Planning, Lands and Heritage (DPLH) – 7 April 2025

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Overview

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Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Please also find attached the details of WA shipwrecks that are relevant for this EP.

Given the proximity of the proposed activities to Marine Parks, Woodside is consulting with the Department of Biodiversity, Conservation and Attractions (DBCA) for this EP. Woodside is also consulting with the Western Australian Museum and provided it with relevant shipwreck information for this EP.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
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6.1.22 Email sent to Western Australian Museum (WAM) – 7 April 2025

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Please also find attached the details of WA shipwrecks that are relevant for this EP.

As per the Underwater Cultural Heritage Act 2018 (Cwth), Woodside will contact the Commonwealth regulator, the Department of Climate Change, Energy, the Environment and Water (DCCEEW), regarding this EP.

Woodside also refers to the Commonwealth Government's Underwater Cultural Heritage (UCH) Guidance document regarding assessments and the draft Guidelines for Working in Near and Offshore Environment to Protect Underwater Cultural Heritage.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
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6.1.23 Email sent to Shire of Ashburton – 7 April 2025

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Activity and location summary

Okha FPSO Facility Operations Environment Plan

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Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Woodside is required to manage environmental impacts and risks to the EMBA by its proposed activities to As Low As Reasonably Practicable (ALARP) and to an acceptable level, as required by the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Environment Regulations), through the implementation of the EP. Woodside will submit the proposed EP to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

Preparedness and Response

In the course of developing the EP, Woodside will develop the oil spill preparedness and response position tailored to this activity including the drafting of the Oil Pollution First Strike Plan which details the potential impacts, notifications and response mitigations that may be executed to manage an emergency event. Woodside consults with the relevant jurisdictional authorities and controlling agencies, including the Western Australian Department of Transport (DoT), the Australian Maritime Safety Agency (AMSA) and, in some circumstances, relevant port authorities, during the plan drafting process to inform mitigation management measures in place for the proposed activities. Woodside may also consult with other relevant external emergency management agencies, including LEMC, to ensure emergency management plans are aligned with effective outcomes.

In addition to the jurisdictional authorities and controlling agencies, the plan includes standard emergency notifications to agencies including NOPSEMA, the Department of Climate Change, Energy, the Environment and Water (DCCEEW), the Director of National Parks (DNP), and the WA Department of Biodiversity, Conservation and Attractions (DBCA). Where applicable, notification information for relevant Shires is also included in the Oil Pollution First Strike Plan.

Cultural heritage

Woodside routinely utilises the Department of Planning, Land and Heritage Aboriginal Cultural Heritage Inquiry System as part of the EP development process and includes the results of these inquiry system searches as an appendix to each EP.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the Environment Plan made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

NOPSEMA has published the brochure *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

6.1.24 Email sent to Chevron – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Please also find attached a GIS Shape File.

We would be grateful if you could please forward this consultation information to your Joint Venture participants Osaka Gas Gorgon, MidOcean Gorgon and JERA Gorgon for feedback.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the Environment Plan made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

NOPSEMA has published the brochure *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our website.

6.1.25 Email sent to Western Australian Fishing Industry Council (WAFIC) – 7 April 2025

Please see below consultation information for the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The consultation period is due to close on **16 May 2025**.

A Consultation Information Sheet is also attached.

Under the fee-for-service agreement Option A, can WAFIC please provide the consultation information to the following fisheries based on active fishing (Fishcube data) in the Operational Area:

- Mackerel Managed Fishery (Area 2),
- Pilbara Trawl Managed Fishery
- Pilbara Trap Managed Fishery
- Pilbara Line Fishery

Draft email for WAFIC to send to Individual Licence Holders

Dear License Holders

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

Woodside is seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact WAFIC by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

The table below provides a summary of the proposed activities under this EP. The attached Consultation Information Sheet provides additional information including a map of impacted areas, summaries of potential impacts and risks relating to the proposed activities, and associated management measures. This is also available on Woodside's website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Notifications

Please let WAFIC know if you require notification prior to and on completion of the proposed activities.

Feedback

Please provide feedback specific to the proposed activities described to Individual 4 by 16 May 2025.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the Environment Plan made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and if so, Woodside will make your request known to NOPSEMA.

NOPSEMA has published the brochure *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

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6.1.25.1 Email sent to Mackerel Managed Fishery (Area 2), Pilbara Trawl Managed Fishery, Pilbara Trap Managed Fishery, Pilbara Line Fishery

Dear License Holders

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

Woodside is seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact WAFIC by **23 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
- Offtake of oil to trading tankers and transport of gas via the Wanaea Cossack gas export pipeline (WC GEL) to the North Rankin Complex where it is routed to the Karratha Gas Plant onshore via two trunklines.
- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

The table below provides a summary of the proposed activities under this EP. The attached Consultation Information Sheet provides additional information including a map of impacted areas, summaries of potential

impacts and risks relating to the proposed activities, and associated management measures. This is also available on Woodside's website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Notifications

Please let WAFIC know if you require notification prior to and on completion of the proposed activities.

Feedback

Please provide feedback specific to the proposed activities described to Individual 4 by 23 May 2025.

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

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6.1.26 Email sent to Aquaculture Council of Western Australia (ACWA) – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
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- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
Infrastructure	Key infrastructure includes, but is not limited to: • Okha FPSO facility, riser turret mooring (RTM) system and the WC GEL. Wells, pipeline/flowlines, manifolds and other subsea infrastructure associated with the Cossack, Wanaea, Lambert and Hermes fields.
Vessels	Key vessels include, but are not limited to: • Facility support vessels handle routine operations and offtake support • IMMR vessels, such as subsea support vessels and multi-purpose support vessels, carry out IMMR activities • Helicopters transport personnel and/or freight to and from the Okha FPSO facility and activity vessels.
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The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

EMBA Overlap

Woodside is providing this information to the Aquaculture Council of Western Australia as our mapping data shows the EMBA for this EP overlaps with pearl farm leases in the Montebello Islands, Claret Bay and Dailey Shoal and aquaculture sites in the Mackerel Islands, Exmouth – Murat Road, Wallabi Group and Abrolhos Islands – Easter Group and West of Gun Island.

Notifications

Please let us know if you require notification prior to and on completion of the proposed activities.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

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6.1.27 Email sent to Department of Biodiversity, Conservation and Attractions (DBCA) – 7 April 2025

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

We are seeking feedback from relevant persons whose functions, interests or activities may be affected by the proposed activity. If you would like to comment on the proposed activity, please contact Woodside by **16 May 2025** using the details below.

Overview

The Okha FPSO Facility Operations EP covers the continued operation of the FPSO Facility. Activities include but are not limited to:

- Continued operation of the Okha FPSO facility which extracts, processes and stores oil and export gas from the Cossack, Wanaea, Lambert and Hermes fields.
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- Vessel-based routine inspection, monitoring, maintenance and repair (IMMR) activities to support 13 subsea wells and infrastructure.

Consultation information

A Consultation Information Sheet is attached, which provides additional background on the proposed activities including summaries of potential key impacts and risks and associated management measures. This is also available on our website.

Activity and location summary

Okha FPSO Facility Operations Environment Plan

Activity details	Activities include: • Processing and production of oil and gas • Oil storage and offloading • Export of natural gas via the WC GEL • Vessel-based routine and non-routine inspection, monitoring, maintenance and repair (IMMR) activities to uphold infrastructure integrity • Associated facility operations (lifting, bunkering, support vessel and helicopter operations) • Major projects (refurbishment, modification or major maintenance including disconnection and sailing off-station).
Titles	Production licenses: WA-11-L, WA-9-L and WA-16-L. Pipeline license: WA-4-PL.
Location	In Commonwealth waters, approximately 119 km north-west of the town of Dampier.
Water depth	Approximately 80 m - 125 m deep.
Timing	• Production using the Okha FPSO facility commenced 2011. • Estimated end of field life is currently anticipated for 2031, subject to reservoir performance. • Decommissioning is not currently planned during the next 5 years.
Duration	• Routine operations 24 hours a day, 365 days a year (production may temporarily cease if the Okha FPSO facility is required to sail off-station for cyclones or to a shipyard for maintenance). • Vessel-based IMMR activities take place as required.
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Operational Area and exclusion zones	The location of infrastructure is marked on nautical charts. The Operational Area includes: • Okha FPSO facility and the area around the facility, extending out to 1500 m to allow for offtake activities • Okha FPSO facility subsea infrastructure, including wells and flowlines, and an area within 1500 m of the infrastructure • WC GEL ending at the North Rankin Complex facility, and an area within 1500 m of the infrastructure • 500 m petroleum safety zone (PSZ) is implemented around the Okha FPSO facility riser turret mooring system.

Environment that May Be Affected (EMBA)

The EMBA is the largest geographic area where an unplanned event could potentially have an environmental consequence. The broadest extent of the EMBA takes into consideration planned activities

and unplanned events. The EMBA has been developed combining numerous modelling outputs based on highly unlikely releases of hydrocarbons to the environment. The modelling scenarios that inform the EMBA include a loss of well containment and an Okha FPSO cargo tank loss of containment.

The EMBA does not represent the extent of the predicted impact of a highly unlikely hydrocarbon release. Rather, the EMBA represents the merged area of many possible paths that a highly unlikely hydrocarbon release could travel, which depends on the weather and ocean conditions at the time of a release. This means that in the highly unlikely event that a hydrocarbon release does occur, the whole EMBA will not be affected. The specific and minimal part of the EMBA that is affected will only be known if there is a release.

Areas of ecological importance

Woodside affirms that areas of ecological importance in the Operational Area will not be impacted by planned activities.

Woodside maintains knowledge and an understanding of areas of ecological importance within and adjacent to the Operational Area. An information system to track current existing environment knowledge is regularly updated and cover the following topics:

- EPBC Act Matters of National Ecological Significance (MNES) including threatened and migratory listed species
- WA Biodiversity Conservation Act 2016 – threatened and priority fauna list, the Part 13 Instruments, i.e., threatened species recovery plans and Biodiversity Regulations 2018
- EPBC Act threatened Species, Recovery Plans and Conservation advice
- State protected areas information and management plans on the habitats and associated fish and benthic communities.

The sources of information include credible published scientific research, industry and research agencies (government and university) study reports including baseline and monitoring programs. Woodside is also committed to sharing knowledge and contributes to the Index of Marine Surveys for Assessment (IMSA) hosted by the Department of Water and Environmental Regulation (WA) and supported by WAMSI.

National Light Pollution Guidelines

The lighting associated with the Okha FPSO Facility Operations EP activity vessels is required as a priority for safe operation. Woodside has considered the Commonwealth Department of Climate Change, Energy, the Environment and Water's National Light Pollution Guidelines for Wildlife with respect to vessel activities. The assessment of potential impacts to seabird and turtle behaviour, is based on recommendations in the National Light Pollution Guidelines. This impact assessment determined that the impacts of lighting are as low as reasonably practicable (ALARP).

Operational Scientific Monitoring Program

Woodside's oil spill Operational and Scientific Monitoring (OSM) Program, executed under the Joint Industry OSM Framework (AEP, 2021), provides for a quantitative assessment of the overall environmental impacts in the event of an unplanned hydrocarbon release, or any release event with the potential to contact sensitive environmental receptors including but not limited to the Ningaloo Marine Park (M 2), Montebello Islands Marine Park (M 9) and the Barrow Island Nature Reserve (R 11648). The OSM comprises ten scientific monitoring programs (SMPs) and six operational monitoring programs (OMPs). The SMPs are targeted environmental monitoring programs to assess and quantify the environmental impact of a hydrocarbon spill range of physical-chemical (water and sediment) and biological (species and habitats) receptors, including EPBC Act listed species, environmental values associated with protected areas and socio-economic values, such as fisheries. The ten SMPs address a range of receptors most vulnerable to the impacts of a hydrocarbon release. The actual design and execution of the OSM program will be dependent on the nature and scale of the spill and the receptors predicted to be impacted. One of the priority focus areas in the early phase of an incident would be to identify and execute OSM at First Strike Monitoring Priorities.

Incidents and emergency response

Woodside's Oil Pollution First Strike Plan for this activity includes a commitment that the DBCA will be notified via phone call as soon as practicable if there is potential for oiled wildlife or the spill is expected to contact land or waters managed by WA DBCA. Woodside has incorporated the DBCA Pilbara regional office phone number as part of the notifications as listed in the Oil Pollution First Strike Plan.

This plan describes the incident management structure, notification and reporting requirements, the Operational Area, activity specific credible spill scenarios, and the hydrocarbon spill response strategies available for the protection of priority receptors. Links are included in the plan to a suite of existing Operational Plans and Tactical Response Plans (TRPs) to commence the mobilisation of response resources immediately, including 'monitor and evaluate' services, operational and scientific monitoring, and shoreline clean-up where required. Woodside understands that DBCA will not implement an oiled wildlife management response on behalf of a petroleum operator.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by **16 May 2025.** Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the Environment Plan made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

NOPSEMA has published the brochure *Consultation on offshore petroleum environment plans – Information for the Community* to help community members understand consultation requirements for Commonwealth EPs and how to participate in consultation.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our website.

6.1.28 Email sent to Buurabalayji Thalanyji Aboriginal Corporation (BTAC) – 7 April 2025

Woodside would like to consult with BTAC as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to BTAC's cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

- Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au)
- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of BTAC, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values – Buurabalayji Thalanyji Aboriginal Corporation (BTAC)

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Sea Country – connection to, access to and transfer of knowledge: • Enduring deep connection north of Onslow, extending out to Islands off the Pilbara coast including Montebello, Barrow and Mackerel Islands. • Cultural obligation to care for environment and values of Sea Country. • Resources including fish, shellfish, crabs, crustaceans, sea urchins, eggs, turtles, dugongs, flora and fauna associated with mangrove communities. • Artefacts and burials in coastal sand dunes. • Archaeological sites on Barrow and Montebello Islands. • Archaeological evidence of use of resources including fish, turtles, marine mammals, crocodiles, crabs and sea urchins. • Ceremonial sites (Thalu) for the increase of turtle, shark, ray, fish, squid, octopus, hill kangaroo and emu.	x	x

6.1.29 Email (printed copy) provided to Gogolanyngor Aboriginal Corporation (GAC) – 3 April 2025

Woodside provided GAC with a printed copy of this email during a meeting in Broome. Detailed minutes of this meeting can be found in SI Report B, reference 2.4.

Email (hard copy) given to GAC during meeting – 3 April 2025

Woodside would like to consult with Gogolanyngor Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Gogolanyngor Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

- Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au)
- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Gogolanyngor Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.1.30 Email sent to Karajarri Traditional Lands Association (Aboriginal Corporation) (KTLA) – 7 April 2025

Hope you are well. My name is [Individual 2] First Nations Senior Engagement Advisor for Woodside Energy Ltd. The attached environment plan is not a new project, Okha commenced operations in 2011, and the attached EP is a 5-year revision of operations. [Individual 3] and I will be in Broome in 2 or 3 weeks' time and will let you know as soon as we have dates. Hopefully, we can meet, and we can explain the NOPSEMA guidelines, the environment plans and EMBA better.

We are contacting you as the delegated representative for Karajarri Traditional Lands Association (Aboriginal Corporation)

Woodside would like to consult with Karajarri Traditional Lands Association (Aboriginal Corporation) as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

- Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au)
- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Karajarri Traditional Lands Association (Aboriginal Corporation), Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.1.31 Kariyarra Aboriginal Corporation (KAC) – 7 April 2025

As mentioned last week we have another EP relevant to the Kariyarra Community and other relevant persons. We can discuss this in detail at our meeting later in the month but if you have any question in the interim, please reach out.

Woodside would like to consult with Kariyarra Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have

also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Kariyarra Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

- Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au)
- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Kariyarra Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values – Kariyarra Aboriginal Corporation (KAC)

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Marine Animals • Turtles: management of and sea turtle nesting. • Whales: connection to Songlines, impacts to whale migration.	x	
Sea Country • Cultural obligations to care for Country. • Secret habitat totems. • Access for fishing, trapping, crabbing, catching turtle, hunting dugong, using stingray barbs for spears, collecting shellfish and visiting offshore islands at low tide.	x	x
Yinta • Significant cultural/spiritual sites, often a water source but possibly other features such as hills. • Cultural rights to land determine who can use or speak for an area.	x	x
Marine species as resources • Marine mammals • Fish • Molluscs including bivalves, gastropods and cephalopods.	x	
Coastal landforms	x	
Coastal vegetation	x	
Heritage sites associated with the coast and ocean including the presence of mythical snakes. • Traditional knowledge recalls that a saltwater serpent lives in the sea and brings fish to shore.	x	x
Transfer of knowledge to future generations • Impacts to resources: species reduction • Temporary exclusion to areas in the case of an oil spill etc.	x	

6.1.32 Email sent to Malgana Aboriginal Corporation – 7 April 2025

I hope you found time to relax over the weekend. As discussed last week, Woodside has another EP that may be of relevance to the Malgana Community. I will be driving through over the weekend and in Perth for the holidays if any of the Traditional Owners would like to meet and discuss these activities. I appreciate there may not be capacity to meet face to face at this stage but feedback is accepted for the life of the EP so there is always an opportunity to consult at a later date if that is more suitable.

Talk soon

We are contacting you as the delegated contact person for Malgana Aboriginal Corporation.

Woodside would like to consult with Malgana Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Malgana Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

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- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Malgana Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values – Malgana Aboriginal Corporation

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Interest in Shark Bay • Unique environment • Stromatolites and microbial mats	x	
Access to Country for resources • Bird and turtle eggs • Dugongs • Turtle • Fish including sharks • Shellfish • Crabs		x
Traditional knowledge of freshwater seeps in the submerged landscape.		x
Cultural significant species • Green sea turtles • Dugongs • Shags • Bottlenose dolphins		x
Sharing and controlling of knowledge – knowledge owners must maintain control.		x
Transfer of knowledge to younger generations – Older people pass on knowledge about Country to younger people.		x

6.1.33 Email sent to Murujuga Aboriginal Corporation (MAC) – 7 April 2025

We are contacting you as the delegated representative for Murujuga Aboriginal Corporation. The Okha FPSO Facility Ops environment (EP) plan is not a new project, Okha commenced in 2011 and this EP is a 5 year revision of operations.

Woodside would like to consult with Murujuga Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Murujuga Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

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Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

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- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Murujuga Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values – Murujuga Aboriginal Corporation (MAC)

Cultural Value	Source	
	Consultation	Literature review (publicly available)
The ecosystem and health of Mermaid Sound.		x
Marine species • Whales: totemic importance • Dolphins: cultural ceremonies • Dugongs: food source • Fish: cultural ceremonies • Sea Snakes: culturally important • Turtles: Songlines • Coral: attract fish and other species • Seagrass: provide protection for animals. Locations include Conzinc Island and between Angel and Gidley Islands.	x	x
Marine eco-systems • Mangroves: would have provided shelter, crabbing, digging for shellfish and could be turtle nurseries. Locations include Conzinc Bay north end, Flying Foam Passage, Searipple Passage, North-East Bay of West Lewis Island. • Macroalgal (seaweed) communities: important habitats and food sources. • Subtidal soft bottom communities (ocean bottom): support invertebrate diversity. • Intertidal sand and mudflat communities: support invertebrate diversity and provide food for shorebirds. • Rocky shores: habitats for plants/animals and provide food for shorebirds.	x	x
Fish traps in Conzinc Bay and Angel and Gidley Islands.		x
Harvesting squid around Conzinc Bay		x
MAC is the appropriate cultural authority for Murujuga	x	
Potential impact on Jinna (Songlines) on the submerged landscape.	x	

6.1.34 Email sent to Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC) – 7 April 2025

As discussed last week, Woodside has another EP that may be of relevance to the NTGAC Community. I will be driving through over the weekend and in Perth for the holidays if any of the Traditional Owners would like to meet and discuss these activities. I understand there may not be capacity to meet face to face at this stage due to the Corporations backlog of work as a result of the recent restructure, so just a reminder feedback is accepted for the life of the EP and there is always an opportunity to consult at a later date, if that is more suitable.

Woodside would like to consult with Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC), as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity

- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Nganhurra Thanardi Garrbu Aboriginal Corporation, cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

- Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au)
- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Nganhurra Thanardi Garrbu Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values - Nganhurra Thanardi Garrbu Aboriginal Corporation (NTGAC)

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Marine ecosystems and species • Interest in invasive marine species • Interest in chemicals released into water – ballast water discharge • Marine parks – risks	x	

6.1.35 Email sent to Ngarluma Aboriginal Corporation (NAC) – 7 April 2025

I hope you both had time to relax over the weekend. As I mentioned last week, we have another EP that may be of relevance to the Ngarluma Community. Please reach out if you would further information or would like an opportunity to consult.

Woodside would like to consult with Ngarluma Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values

- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Ngarluma Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

- Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au)
- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Ngarluma Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values – Ngarluma Aboriginal Corporation (NAC)

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Onshore heritage: interest in management of heritage sites.	x	
Potential submerged heritage.	x	

6.1.36 Email (printed copy) provided to Nimanburr Aboriginal Corporation (Nimanburr) – 3 April 2025

Woodside provided Nimanburr with a printed copy of this email during a meeting in Broome. Minutes of this meeting can be found in SI Report B, reference 9.1.

Email (printed copy) given to Nimanburr Aboriginal Corporation during meeting – 3 April 2025

Woodside would like to consult with Nimanburr Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan

- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Nimanburr Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

- Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au)
- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Nimanburr Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values – Nimanburr Aboriginal Corporation

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Valentine Island		x

6.1.37 Email sent to Nyangumarta Karajarri Aboriginal Corporation (NKAC) – 7 April 2025

Hope you are well. My name is [Individual 2] First Nations Senior Engagement Advisor for Woodside Energy Ltd. The attached environment plan is not a new project, Okha commenced operations in 2011, and the attached EP is a 5-year revision of operations. [Individual 3] and I will be in Broome in 2 or 3 weeks' time and will let you know as soon as we have dates. Hopefully, we can meet, and we can explain the NOPSEMA guidelines, the environment plans and EMBA better.

We are contacting you as the delegated representative for Nyangumarta Karajarri Aboriginal Corporation.

Woodside would like to consult with Nyangumarta Karajarri Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

- Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au)
- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Nyangumarta Karajarri Aboriginal Corporation Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.1.38 Email sent to Nyangumarta Warrarn Aboriginal Corporation (NWAC) – 7 April 2025

Hope this email finds you well. My name is [Individual 2] First Nations Senior Engagement Advisor for Woodside, working with [Individual 3].

We are contacting you as the delegated representative for Nyangumarta Warrarn Aboriginal Corporation.

Woodside would like to consult with Nyangumarta Warrarn Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Nyangumarta Warrarn Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

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Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

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Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Nyangumarta Warrarn Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values – Nyangumarta Warrarn Aboriginal Corporation (NWAC)

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Eighty Mile Beach has cultural and ecological value to the Nyangumarta Custodians.	x	
Resource collection • Impacts to migrating birds, whales, turtles and vegetation.	x	

6.1.39 Email sent to Nyul Nyul Aboriginal Corporation (NNAC) – 7 April 2025

Woodside would like to consult with Nyul Nyul Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP). Okha FPSO commenced operations in 2011 and is not a new project and the environment plan is for a 5 year operating revision.

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

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Further information about NOPSEMA

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Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Nyul Nyul Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call or send through guidance on next steps.

Kind regards,

6.1.40 Email sent to Robe River Kuruma Aboriginal Corporation (RRKAC) – 7 April 2025

I hope you had an enjoyable weekend.

Woodside would like to consult with Robe River Kuruma Aboriginal Corporation, as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have

also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Robe River Kuruma Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

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Further information about NOPSEMA

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- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Robe River Kuruma Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values - Robe River Kuruma Aboriginal Corporation (RRKAC)

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Underwater heritage – concerns about impacts to heritage at shoreline.	x	
Coastline	x	

6.1.41 Email sent to Wanparta Aboriginal Corporation (Wanparta) – 7 April 2025

I hope you enjoyed the weekend. I am just touching base as there is another EP that may be of relevance to the Wanparta Community. Please reach out if you have any questions.

Woodside would like to consult with Wanparta Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Wanparta Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

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Further information about NOPSEMA

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Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Wanparta Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values – Wanparta Aboriginal Corporation

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Sea Country • Spiritual connection • Cultural obligation to look after Sea Country	x	
Nearshore Islands (particularly Solitary Island/Jarrkunpungu) • Dreaming stories through the interconnecting islands • Dreamtime stories through the nearshore islands.	x	
Sea (fresh and salt water) • Dreaming stories • A responsibility to look after the ocean (law and culture)	x	
Totemic species • Kestrel • Octopus • Spiny Brim • Sting Ray	x	

6.1.42 Email sent to Whadjuk Aboriginal Corporation (Whadjuk) – 8 April 2025

I hope this email finds you well. My name is [Individual 2] First Nations Senior Engagement Advisor for Woodside Energy Ltd.

We are contacting you as the delegated representative for Whadjuk Aboriginal Corporation.

Woodside would like to consult with Whadjuk Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

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Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Whadjuk Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.1.43 Email sent to Wirrawandi Aboriginal Corporation (WAC) – 7 April 2025

Hope this email finds you well .

We are contacting you as the delegated representative for Wirrawandi Aboriginal Corporation

Woodside would like to consult with Wirrawandi Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to Wirrawandi Aboriginal Corporation cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

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Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP.

Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of the Wirrawandi Aboriginal Corporation , Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps

Cultural Values – Wirrawandi Aboriginal Corporation (WAC)

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Marine Species • Whales: migration and potential impact of noise on whale communication • Turtles: general interest around management and monitoring.	x	
Rock art: potential impact of emissions from activities.	x	
Underwater heritage: impacts particularly given recent finding of artefacts.	x	
Onshore heritage: management of sites.	x	

6.1.44 Email sent to Yawuru Native Title Holders Aboriginal Corporation (Yawuru) – 7 April 2025

I hope this email finds you well.

Our environment plan (EP) activity is not normally as busy as this, sending two in as many weeks! The attached environment plan is not a new project, Okha commenced operations in 2011 and the attached EP is a 5 year revision of operations.

I will be back up in Broome in 2 or 3 weeks' time and will let you know as soon as I have dates, so we can hopefully meet and I can explain the NOPSEMA guidelines, environment plans and EMBA better.

Woodside would like to consult with Yawuru Native Title Holders Aboriginal Corporation as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

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Ongoing Feedback

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Please feel free to forward this email and the attached document to members of the Yawuru Native Title Holders Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.1.45 Email sent to Yindjibarndi Aboriginal Corporation (Yindjibarndi) – 7 April 2025

Woodside would like to consult with NYFL and Yindjibarndi as a relevant stakeholders that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

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- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

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Please feel free to forward this email and the attached document to members of NYFL, Yindjibarndi Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.1.46 Email sent to Yinggarda Aboriginal Corporation (YAC) – 7 April 2025

We are contacting you as the delegated representative for Yinggarda Aboriginal Corporation (YAC).

Woodside would like to consult with YAC as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

We have collated information in relation to YAC's cultural values that we consider relevant to this activity, which is outlined in Attachment A. If there are any changes or additional information you would like

Woodside to consider in the preparation of this EP, please let us know by Friday 16 May 2025. Please also get in touch if you'd like to learn more about how we have collected this information.

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

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Ongoing Feedback

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Please feel free to forward this email and the attached document to members of YAC, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

Cultural Values - Yinggarda Aboriginal Corporation (YAC)

Cultural Value	Source	
	Consultation	Literature review (publicly available)
Right and responsibility to speak and care for Country		x
Contemporary use of Country for cultural activities • Fishing including for Shark Bay mullet. • Camping • Hunting and gathering	x	x
Ecosystem health • Plants, animals and the environment are inexorably linked to culture. • Seagrass important food source for dugongs.	x	
Marine Mammals • Dugongs • Whales: potential impact to migration patterns and potential collisions with vessels.	x	

6.1.47 Email sent to Kimberley Land Council (KLC) – 7 April 2025

Good to touch base last week and pleased I could introduce [Individual 2] to you, [Individual 2] will be assisting me with Kimberley engagement and consultation.

Woodside would like to consult with Kimberley Land Council as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

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Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this

activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

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Further information about NOPSEMA

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Ongoing Feedback

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Please feel free to forward this email and the attached document to members of the Kimberley Land Council, Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.1.48 Email sent to Yamatji Marlpa Aboriginal Corporation (YMAC) – 7 April 2025

Dear Yamatji Marlpa Aboriginal Corporation,

Woodside would like to consult with Yamatji Marlpa Aboriginal Corporation (YMAC) as a relevant stakeholder that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have

also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

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Ongoing Feedback

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Please feel free to forward this email and the attached document to members of the Yamatji Marlpa Aboriginal Corporation (YMAC), Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.1.49 Email sent to Ngarluma Yindjibarndi Foundation Ltd (NYFL) – 7 April 2025

Woodside would like to consult with NYFL and Yindjibarndi as a relevant stakeholders that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
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Overview of the activity

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Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

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Further information about NOPSEMA

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Ongoing Feedback

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the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of NYFL, Yindjibarndi Aboriginal Corporation, Traditional Owners and other people and organisations who may be interested.

We also acknowledge our discussions relating to the framework agreement have been ongoing and appreciate that these discussions will progress in parallel with consultation for this EP.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.1.50 Email sent to Save Our Songlines (SOS) – 7 April 2025

Dear [Individual 1] and Save Our Songlines

Woodside would like to consult with you and Save Our Songlines as a relevant stakeholders that may be affected by the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (Okha Operations EP).

Consultation for this activity closes on Friday 16 May 2025. Your feedback, opinions and comments provided by this date will be reflected in the EP and considered by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA).

The purpose of this email is to:

- Inform you about our plans for the activity
- Invite you to submit feedback for the activity
- Provide an opportunity to discuss the activity
- Discuss further ways to consult and engage for the activity

Overview of the activity

The attached Summary Information Sheet has been developed for a First Nations audience and provides a high-level overview of the activity, including the Environment that May Be Affected (EMBA) map. We have also linked the Consultation Information Sheet here with further details including an assessment of the potential impacts and risks relevant to the activity, as well as mitigation and management measures.

Consultation with Woodside

We'd like to gather your feedback about:

- How the activity could impact your cultural values, interests, and activities
- Protection of the environment and its relationship to your cultural values
- Your concerns about the proposed activity
- Other elements we should consider in the Environment Plan
- Any other individuals, groups, or organisations we should talk to about this activity

Please let us know your preferred method of consultation including whether you would like to meet face to face. We welcome the opportunity to speak with Elders, office holders and other interested parties about this activity. Woodside provides various forms of assistance to organisations, Traditional Custodian groups and individuals to support participation in consultation.

Information can be sent to feedback@woodside.com, via telephone on 1800 442 977 or directly to me.

Woodside manages gender-restricted or other culturally sensitive information carefully and will work with you to understand how you would like your information to be managed. If you would prefer to provide the information directly to NOPSEMA, please do so by phoning (08) 6188 8700 or via email at communications@nopsema.gov.au.

Further information about NOPSEMA

The following NOPSEMA publications may be of assistance to support understanding of the requirements to participate in consultation for Commonwealth EPs:

- Brochure: Consultation on offshore petroleum environment plans brochure.pdf (nopsema.gov.au)
- Guideline: Guideline: Consultation in the course of preparing an environment plan (nopsema.gov.au)
- Policy: Draft policy for managing gender-restricted information PL2098.pdf (nopsema.gov.au).

Ongoing Feedback

Feedback can continue to be provided during the life of an EP, including after consultation for the EP has closed, during EP assessment, and after an EP has been accepted by NOPSEMA. Woodside continues to receive, assess and respond to claims and objections from relevant persons throughout the life of the EP. Should a claim or objection be received following the acceptance of an EP that Woodside assesses, and which identifies a measure or control that Woodside considers requires implementation or updates to meet the intended outcome of consultation, Woodside will apply its Management of Change and Review process as appropriate.

Please feel free to forward this email and the attached document to members of Save Our Songlines, Traditional Owners and other people and organisations who may be interested.

I look forward to your response and please feel free to call or send through guidance on next steps.

6.2 Follow-up consultation

6.2.1 Email sent to 350 Australia (350A), 3D Energi Limited, Allasso Energy, Australasian Centre for Corporate Responsibility (ACCR), Australian Border Force (ABF), Australian Conservation Foundation (ACF), Australian Energy Producers (AEP), Australian Marine Conservation Society (AMCS), Australian Maritime Safety Authority (AMSA) – Marine Pollution, BP, Beagle No. 1, Bounty Oil and Gas, Broome Chamber of Commerce and Industry (BCCI), Cape Conservation Group (CCG), Carbon CQ, Carnarvon Chamber of Commerce and Industry, Carnarvon Energy Ltd, City of Cockburn, City of Greater Geraldton, City of Karratha, Clean Energy Regulator (CER), Climate Council, Coastal Oil and Gas, Conservation Council of WA (CCWA), Department of Mines, Petroleum and Exploration (DMPE) (formerly known and consulted as Department of Energy, Mines, Industry Regulation and Safety (DEMIRS)), Department of Industry, Science and Resources (DISR), Dirk Hartog Island, Energy Resources Limited (Part of Mineral Resources), Environs Kimberley, Exmouth Chamber of Commerce and Industry (CCI), Exmouth Community Liaison Group, Finder Energy, Friends of Australian Rock Art (FARA), Greenpeace Australia Pacific (GAP), INPEX (EP), JX Nippon, Jadestone Energy, KATO Energy (WA), Karratha & Districts Chamber of Commerce and Industry (KDCCI), Karratha Community Liaison Group, KUFPEC, Kyushu Electric Wheatstone, Melville Cockburn Chamber of Commerce and Industry, Mobil, Naturetime Tours, Ningaloo Coast World Heritage Advisory Committee (NCWHAC), OMV Australia, Onslow Chamber of Commerce and Industry, OPIC Australia, PE Wheatstone, Pathfinder Energy, Pelsart Resources N.L., Pilbara Ports Authority (PPA), Protect Ningaloo, RAC Monkey Mia, Santos, SK Earthon, Shark Bay Aviation, Shark Bay Coastal Tours, Shark Bay Community Resource Centre, Shire of Ashburton, Shire of Broome, Shire of Carnarvon, Shire of Exmouth, Shire of Shark Bay, Skye Napoleon Pty Ltd, Tanami Energy, Vermilion Energy, Wula

Gura Nyinda Eco Cultural Tours, Department of Defence (DoD), Department of Agriculture, Fisheries and Forestry (DAFF) – Biosecurity, Marine Pests, Vessels, Aircraft and Personnel, Commonwealth Fisheries Association (CFA), North West Slope Trawl Fishery, Tuna Australia, Western Deepwater Trawl Fishery, Western Tuna and Billfish Fishery Department of Agriculture, Fisheries and Forestry (DAFF) – Fisheries, Director of National Parks (DNP) Department of Transport (DoT), Department of Primary Industries and Regional Development (DPIRD), Gascoyne Recreational Marine Users, Marine Tourism WA, Pilbara/Kimberley Recreational Marine Users, Recfishwest, WA Game Fishing Association, Western Rock Lobster Council, Australian Institute of Marine Science (AIMS), Commonwealth Scientific and Industrial Research Organisation (CSIRO), Curtin University, University of Western Australia (UWA), Western Australian Marine Science Institution (WAMSI), Department of Climate Change, Energy, the Environment and Water (DCCEEW), Department of Planning, Lands and Heritage (DPLH), Western Australian Museum (WAM), Aquaculture Council of Western Australia (ACWA), Department of Biodiversity, Conservation and Attractions (DBCA), – 30 April 2025

Woodside previously consulted you on its plans to submit the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP).

Woodside is planning to submit the five-year revision of the Okha FPSO Facility Operations EP. The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

Additional information on the EP is provided in the email below and in the Consultation Information Sheet attached, which is also available on Woodside's website.

Feedback

If you have feedback specific to the proposed activities, we welcome your feedback via email at consultation@feedback.woodside.com, via phone call at 1800 442 977 or via the feedback form on our website by 16 May 2025. Alternatively, Woodside is willing to consider and accept your feedback via a means which suit you.

Your feedback and our response will be included in our EP, which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023 (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

You may request that particular information you provide during consultation not be published in the Environment Plan made available on the NOPSEMA website. Please let us know if you request that particular information not be published, and we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit our website.

6.2.2 Letter sent to Gascoyne Recreational Marine Users, Pilbara/Kimberley Marine Users, West Coast Recreational Marine Users, West Coast Rock Lobster Fishery – 30 April 2025

Please direct all responses/queries to:
Woodside Energy Feedback
t: +61 8 (1)800 442 977
e: consultation@feedback.woodside.com.au

Woodside Energy Group Ltd
ACN 004 898 962
Mia Yellagonga
11 Mount Street
Perth WA 6000
Australia
T: +61 8 9348 4000
www.woodside.com

30 April 2025

053 - 1

[redacted]

Dear Stakeholder

OKHA FPSO FACILITY OPERATIONS ENVIROMENT PLAN

Woodside previously consulted you on its plans to submit the Okha FPSO Facility Operations Environment Plan.

Woodside is planning to submit the five-year revision of the Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP). The Okha FPSO Facility is in Production Licenses WA-11-L, WA-9-L and WA-16-11 and Pipeline License WA-4-PL, located in Commonwealth waters approximately 119 km north west of Dampier, Western Australia.

Further information on the proposed activities is provided in the Consultation Information Sheet which is available via the QR code below:

If you have feedback specific to the activities and the proposed EP, Woodside welcomes it at consultation@feedback.woodside.com or via phone call at 1800 442 977 by **16 May 2025.** Your feedback and our response will be included in our EP which will be submitted to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) for acceptance in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023* (Cth). Your feedback may also be used to support other regulatory processes associated with the planned activities (which may or may not be confidential).

Please let us know if you request that particular information that you provide in the consultation not be published. If so, we will make your request known to NOPSEMA.

Personal information collected in the course of consultation will be handled in accordance with Woodside's Environment Plan Privacy Collection Notice. To understand how personal information will be handled, please visit www.woodside.com/what-we-do/consultation-activities.

Regards

Woodside Energy Consultation

Woodside Energy
Mia Yellagonga
Karlak, 11 Mount Street
Perth WA 6000

T: 1800 442 977
E: consultation@feedback.woodside.com
www.woodside.com

6.3 Newspaper advertisements

6.3.1 The Australian – 7 April 2025

THE AUSTRALIAN MONDAY, APRIL 7, 2025

10 WORLD

Minerals the ultimate bargaining chip

ALEXANDER WARD
RHIANNON HOYLE

US President Donald Trump aims to build metals refining facilities on Pentagon military bases as part of his plan to boost domestic production of critical minerals and offset China's control of the sector.

Mr Trump is hoping to outduel China in a global competition for raw materials to fuel US military and industrial might and is pushing the State Department to make mineral deals to bolster US industry and weapons, US officials said, adding that Mr Trump had instructed the Pentagon to also protect US-operated mines in dangerous areas.

Using military bases for processing would underscore the importance Mr Trump is placing on critical minerals for national security. Fighter jets, submarines, bullets and other weaponry used by the US military are built with minerals processed by Beijing.

Mr Trump told the US Congress recently that he would "take historic action to dramatically expand production of critical minerals and rare earths here in the US".

According to sources, Mr Trump does not plan to order the Pentagon or other US agencies to require vendors to use only US minerals, what is known as a "Buy American" mandate, and one that junior miners especially have said is needed to offset China's market manipulations.

However, many of the countries where Mr Trump is pursuing mining rights want something in return.

Ukraine suggested mineral access to secure US support against Russia, the Democratic Republic of Congo wants Washington's help against a rebel group, and Denmark is floating mining contracts and military basing opportunities in hopes of rebuffing Mr Trump's demand to own Greenland, part of its kingdom, while Australia is happy to haggle on minerals.

Although some things are not up for negotiation, such as the country's subsidised prescription-drug system, officials say they are happy to put minerals on the table.

"Critical minerals is a big part of the advantage that we have in our trading relationships and in the discussions, ongoing discussions, that we're having with the US," Australian Treasurer Jim Chalmers said.

Mr Trump wants the US to better compete with the extraordinary relationships China has established in regions including Africa and Latin America.

US officials, including senior envoy Massad Boulos, are helping the administration obtain mining contracts.

"Prioritising critical minerals in our foreign policy not only helps power the American economy but also eliminates dependency on global competitors such as China," National Security Council spokesman Brian Hughes said.

Access to minerals has been a centrepiece of President Trump's recent diplomatic deal making, including with Ukraine in return for supporting Kyiv in its fight against Russia's invasion.

Australia, which is seeking an exemption from 10 per cent global tariffs, has some of the world's largest stores of critical minerals, including lithium and rare earths.

AP

Senior US officials are leading the hunt for mining contracts, including accessing mining operations in Ukraine

Its incumbent centre left government, which faces a close contest in national polls set for May 3, has proposed building a strategic reserve for critical minerals.

It is unclear what shape that stockpile might take, including whether allies would have access to the hoard.

Mr Trump's mineral zeal is a facet of a transactional foreign policy under which he is reluctant to give anything away without compensation, said a veteran of Mr Trump's first administration who sought to convince him to provide more aid.

During his first term, Mr Trump tried to boost US refining and extraction of copper, nickel, lithium and cobalt. When he was hesitant to keep US troops in Syria, aides and allies convinced him to maintain a small contingent there to help extract oil.

Before Mr Trump's re election, at a meeting in New York City last September, Ukrainian President Volodymyr Zelensky reminded him of Ukraine's mineral wealth as a reason to continue supporting the country's fight against Russia, a source said.

Mr Zelensky talked about the country's lithium and uranium, the person said. A Russian victory would put Ukraine's lithium and uranium at Russian President Vladimir Putin's command.

Mr Trump told an ally last year that he wanted up to half of Ukraine's minerals committed to the US. The US deserved it, he said, for economic and military aid extended to Ukraine.

After Mr Trump's re-election, he repeatedly said he was open to exchanging US support for Ukraine's "rare earths", leading to draft arrangements presented in March. The latest proposal goes further. The plan would allow the US to draw profits from Ukrainian projects across metals, oil, gas and other natural resources, as well as infrastructure projects including ports and pipelines.

Mr Zelensky's administration said it needed time to review the deal, angering an impatient Trump. "I see he's trying to back out of the rare-earth deal. And if he does that, he's got some problems. Big, big problems," Mr Trump said on Sunday.

Mining in Ukraine presents challenges for Mr Trump. Kyiv estimates it has about 5 per cent of the world's most critical raw materials, but that hasn't been verified. Some lie under territory controlled by Russia. And Russia's continuing threats against Ukraine might discourage US companies from developing operations in a country with no active mines.

Democratic Republic of Congo's president, Félix Tshisekedi, has offered mining opportunities for a possible US sovereign wealth fund. US mining companies, including KoBold, backed by billionaires Jeff Bezos and Bill Gates, have shown interest.

Mr Tshisekedi wants the US to help repel a Rwanda-backed rebel force, M23, in the DRC's east. The Trump administration placed sanctions on a senior Rwandan leader and a top member of the group, but the DRC wants more support.

Mr Boulos in March met separately with representatives from Rwanda and the DRC in Washington, hoping to negotiate an end to the fighting. The administration worries companies won't invest in the DRC if war continues to rage around them, a source said.

Meanwhile, Copenhagen and Nuuk, Greenland's capital, have resisted Mr Trump's suggestions to cede the territory to the US.

Danish officials have told US counterparts they would be open to more American military facilities on the islands and mining contracts for US companies.

Mr Trump insists US control of Greenland is the only outcome he wants. "We need Greenland," he told NBC News on Sunday.

THE WALL STREET JOURNAL

Zelensky slams US stance on Russia after children killed

JAMES MARSON

Ukrainian President Volodymyr Zelensky criticised the US for its muted reaction to a Russian missile strike that killed at least 18, including nine children, highlighting the simmering tensions as President Donald Trump seeks to placate Russia as part of efforts to end the war.

In a social media post on Saturday, Mr Zelensky listed the children killed by the missile strike in the central Ukrainian city of Kryviy Rih on Friday, from a three-year-old called Tymofiy to 17 year old Nikita.

He thanked European allies and Japan for their reaction to the strike, before noting that US Ambassador Bridget Brink's social-media post did not mention Russia, whose three-year invasion has killed tens of thousands of Ukrainians.

"Unfortunately, the reaction of the US Embassy was an unpleasant surprise," he wrote. "Such a powerful country, such a powerful nation – and such a weak reaction. They are afraid even to say the word 'Russia', speaking about a missile that killed children."

Kyiv mayor Vitali Klitschko said on Sunday the city was under missile attack with explosions in the Ukrainian capital.

Mr Klitschko said paramedics had been sent to two districts in Kyiv, while the Ukrainian air force said missiles had entered the northern Chernihiv region.

"Explosions in the capital. Air defence is in operation," Mr Klitschko said. "The missile attack on Kyiv continues. Stay in shelters!"

He added that three people were injured so far, and said there was reported wreckage falling in two non residential sites.

Across Ukraine, air raid alerts were also issued for the Kherson, Mykolaiv and Odesa regions.

The attacks come at a time when Mr Trump is pushing for a partial ceasefire between Russia and Ukraine, while seeking a thaw in ties with the Kremlin.

Mr Zelensky's criticism reflects growing frustration in Kyiv with Mr Trump's efforts to end the war, which have yielded few results and seen Washington echo the Kremlin's views while limiting criticism of Russia.

Ukraine has agreed to implement a full ceasefire, while Russian President Vladimir Putin has consented only to halt strikes on Ukrainian energy infrastructure, something Kyiv says has not happened. Russia has also insisted on sanctions relief in exchange for a ceasefire.

Mr Zelensky called for pressure on Russia, including additional sanctions, to force an end to the war. "It's necessary to pressure Russia, which chooses the murder of children instead of a ceasefire," he wrote.

US Secretary of State Marco Rubio said on Friday that he told a top Kremlin envoy visiting the US that Russia needed to clarify if it was committed to peace in Ukraine and that the White House expected an answer soon.

Mr Trump has shown irritation at the pace of peace talks, but has refrained from levying new sanctions on Russia. He briefly paused weapons deliveries and some intelligence sharing with Ukraine in March after a heated Oval Office meeting with Mr Zelensky, and is pressuring Kyiv to sign an agreement that would hand sweeping powers over Ukraine's economy in an effort to recoup billions in aid.

The Russian strike on Friday afternoon in Kryviy Rih, Mr Zelensky's hometown, hit a residential area where houses, a children's playground, shops and a restaurant were located, officials said. Mr Zelensky said a further 62 were injured in the strike, including 12 children.

Videos posted on social media showed burning vehicles, bodies splayed on the ground and parents grieving over their dead children. One woman in a white coat knelt beside a motionless body, stroking it and saying: "My sweet little kitten. My sunshine."

THE WALL STREET JOURNAL

Why were no tariffs placed on Moscow?

MARC BENNETTS
ANALYSIS

US President Donald Trump's tariffs affected almost every economy on the planet, from traditional powerhouses such as China and Germany to remote Antarctic islands whose only inhabitants are penguins.

Even Ukraine, whose economy has been devastated in the three years since Russia launched a brutal, all-out invasion, was hit by the minimum tariff rate of 10 per cent. Yet Russia itself was spared, a move that has raised eyebrows at a time when Trump is trying to improve relations with Moscow.

The White House said Russia was not on the list because existing sanctions against Moscow "preclude any meaningful trade". It pointed out that other countries under heavy US sanctions, such as Cuba, Belarus and North Korea, were also not included.

However, despite sanctions, Russia still exported about $US3bn worth of goods, mainly fertilisers and platinum, to the US last year, according to US trade figures. The total value of exports to the US from Belarus, Cuba and North Korea was just a tiny fraction of that.

The Russian exports are also significantly higher than the value of exports from countries included on Trump's list such as Laos and Fiji.

Russia 24, a Russian state television channel, insisted Moscow had not been given "special treatment". Another channel, Russia-1, said Moscow had been spared "to the disappointment of many in the West".

Russia's omission from Trump's tariffs list came shortly after Kirill Dmitriev, the head of Russia's sovereign wealth fund, met in Washington with Steve Witkoff, the White House envoy. A US-educated former Goldman Sachs investment banker, Dmitriev was also a top negotiator at the US-Russia talks in Saudi Arabia on Ukraine.

His visit was the first time a senior Russian official had held talks in the US since Russia's invasion in 2022.

"We note a positive dynamic in our relations," Dmitriev said, after meeting Witkoff. He said the talks had covered a wide range of topics, including rare metals, co operation in the Arctic, flights to Mars and restoring direct US-Russia air links.

On Friday, the Kremlin said "turmoil" created in international markets by Trump's tariffs was "unlikely to be in [Russia's] favour".

Dmitry Peskov, Vladimir Putin's spokesman, said: "For obvious reasons, Russia was not put on the list as our trade with the US is practically non-existent in tangible numbers. In fact, we have no trade and economic relations at this stage. However, we should be careful in the midst of the storm and minimise negative implications for our economy."

Oil and gas revenue account for about a third of Russia's federal budget. As fears grow of a global economic slowdown, oil prices continued to fall before the weekend, with Brent crude trading at its lowest level in more than three years.

In Kyiv, Yulia Svyrydenko, Ukraine Economy Minister, said US tariffs were "difficult, but not critical" and Kyiv would not impose reciprocal tariffs.

THE TIMES

'Democracy not dictatorship': protestors

JASMINE LI
PAUL KIERNAN

Dozens of protests kicked off around the US on Saturday to oppose Trump administration policies that organisers say favour billionaires over everyday people.

Tens of thousands turned out in Washington DC for a "Hands Off" event around the National Mall.

In the biggest day of demonstrations yet by an opposition movement trying to regain its momentum after the shock of the Republican's first weeks in office, marchers carried signs that said "Democracy Not Dictatorship", and "I Heart Federal Workers".

The so called Hands Off demonstrations were organised for more than 1200 locations in all 50 states by more than 150 groups, including civil rights organisations, labour unions, LBGTQ+ advocates, veterans and elections activists. The rallies appeared peaceful, with no immediate reports of arrests.

Thousands of protesters in cities dotting the nation from midtown Manhattan to Anchorage, Alaska, including at multiple state capitols, assailed Donald Trump and billionaire Elon Musk's actions on government downsizing, the economy, immigration and human rights. On the west coast, protesters held signs with slogans like "Fight the oligarchy".

Protesters chanted as they took to the streets in Portland, Oregon, and Los Angeles, where they marched from Pershing Square to City Hall.

Demonstrators voiced anger over the administration's moves to fire thousands of federal workers, close Social Security Administration field offices, effectively shutter entire agencies, deport immigrants, scale back protections for transgender people and cut funding for health programs.

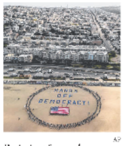
Musk, a Trump adviser who runs Tesla, SpaceX and the social media platform X, has played a key role in the downsizing as the head of the newly created Department of Government Efficiency.

He says he is saving taxpayers billions of dollars.

Asked about the protests, the White House said in a statement that "President Trump's position is clear: he will always protect social security, Medicare, and Medicaid for eligible beneficiaries. Meanwhile, the Democrats' stance is giving social security, Medicaid, and Medicare benefits to illegal aliens, which will bankrupt these programs and crush American seniors."

Roger Broom, 66, a retiree from Delaware County, Ohio, said he used to be a Reagan Republican but has been turned off by Mr Trump. "He's tearing this country apart," Mr Broom said. "It's just an administration of grievances."

WITH AGENCIES



AP

Protesters form a human banner on Ocean Beach in San Francisco on Saturday

6.3.2 The West Australian – 7 April 2025

The West Australian
Monday, April 7, 2025

Alboing his way in front

PM sitting pretty as Labor extends its lead over Liberals in latest polls

DYLAN CAPORN

Anthony Albanese has extended his campaign lead over Peter Dutton after the Coalition's popularity with voters dropped again in the latest Newspoll.

The polling, published by The Australian on Sunday, had Labor holding steady on a primary vote of 33 per cent, while the Liberals lost a point to drop to 36 per cent.

The Coalition's primary vote has slipped since last year, from a pre-campaign high point of 40 per cent in November, and is now at its lowest point since the middle of last year.

The change meant the Government improved on two-party preferred status, leading the Opposition 52 per cent to 48 per cent.

The results, which came at the end of the first week of the election campaign, closely mirrored the result which elected Mr Albanese in 2022, with a narrow one-seat majority.

Despite the Liberals losing ground, Mr Dutton narrowed the gap on Mr Albanese as preferred Prime Minister to eight points.

He also enjoyed a slight improvement in voters' assessment of his performance, rising to a net approval of -17 per cent, compared to the Prime Minister's -11 per cent.

However, the Opposition Leader lost ground on the key attributes of leadership in voters' considerations.

While leading the Prime Minister 62 per cent to 48 per cent on whether voters saw him as "decisive and strong", they also dubbed Mr Dutton arrogant, and he trailed for the first time on the key metric of "understands the key issues".

Mr Albanese led Mr Dutton as the more likeable, trustworthy, experienced candidate, as well as being considered the leader who cared more for people and was more in touch with voters.

The Opposition Leader led on having a vision for Australia.

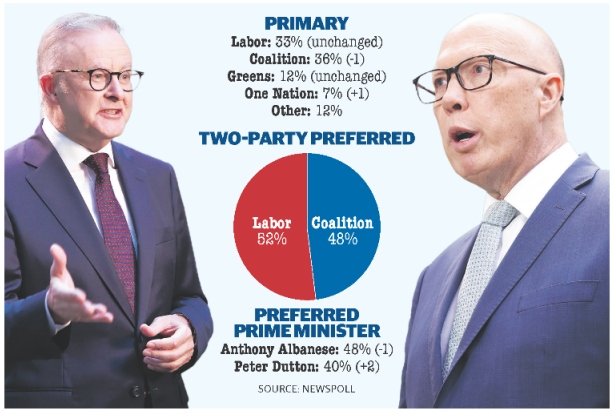
The first week of the campaign was largely dominated by US President Donald Trump's tariffs and a debate over who was better placed to push back against the flat 10 per cent trade cost levelled at Australia.

Liberals have raised concerns over Mr Dutton's performance after a poor start to the campaign in which he has struggled to land a blow on the Prime Minister.

An energised Mr Albanese took on a stronger persona to kick off his first campaign as Prime Minister, but suffered a self-inflicted loss when he fell off a stage in NSW on Thursday.

He then tried to tell media he had not fallen off the stage, before joking about it the following day. Both leaders spent Sunday rallying the party faithful, with Mr Albanese speaking in Brisbane, while Mr Dutton launched his party's bid to win more seats in Tasmania.

The polling comes ahead of the first head-to-head debate between Mr Albanese and Mr Dutton on Tuesday night in Sydney.



6.3.3 Pilbara News – 9 April 2025

4 NEWS pilbaranews.com.au Pilbara NEWS Wednesday, April 9, 2025

Caleb's rise from red dirt to favelas

MADELIN HAYES

Growing up in Karratha, Caleb Atkinson knew from an early age he didn't want to pursue a trade or a career in mining, a path often forged for Pilbara kids.

Inspired by YouTube content creators in high school, Atkinson decided to dip a toe into video-making and quickly found something he loved doing.

"I made two video montages of friends doing Pilbara things and they went semi-viral at the time," he said. "Then I thought: 'oh, damn. You can actually live off making this stuff'.

"I got in a bit of trouble with my high school just because we were wearing school uniforms and doing things we probably shouldn't be doing."

After high school, Atkinson moved to Perth to pursue a full-time career in film and creative direction.

Now, at only 23 years old and working under the name @c4leb400, he has directed music videos and campaigns for artists and brands across the globe, such as Adidas, Crocs and Fortnite.

Most recently, Atkinson was working in Brazil with jiujitsu world champion Craig Jones on a project in collaboration with Perth-based clothing brand StreetX. "One of my favourite projects so far has been working with Adidas for the Women's World Cup, showing women in football for Azzurre, the international team for Italy," Atkinson said.

"We created a video capturing Italian heritage in the lead-up to the cup."

Despite the international reach, the Pilbara's red dirt still feels like home for Atkinson and he's passionate about inspiring young creatives from regional WA to chase their vision.

"My childhood in the Pilbara still influences me massively today," he said.

"Growing up, I saw Dad get up and go to work at 5am and come home at 6pm; rinse and repeat.

"I would love to come back to the Pilbara and talk at the schools or teach a media class to show kids that there are other options out there for them.

"As great as it is to grow up in the Pilbara, it can be hard at the same time, as you're told to go down a certain path.

"I'd love to let kids know that there is more available for them, if they want it."

Caleb works on Babyfaceash's official music video, Money In These Jeans.

Caleb travelled to Brazil to work with jiujitsu world champ Craig Jones.

6.3.4 Geraldton Guardian – 8 April 2025

Guardian
Tuesday, April 8, 2025
geraldtonguardian.com.au

St Francis Xavier Cathedral.
Picture: Dan Avila

Ilgarijiri sculpture on Geraldton Foreshore.
Picture: City of Greater Geraldton

Beresford Foreshore.
Picture: City of Greater Geraldton

Sunset dinner at Skeetas Restaurant.
Picture: City of Greater Geraldton

'It's our time' as Geraldton goes for gold

KATE CAMPBELL

After three years in a row of clinching silver in the 7NEWS Top Tourism Town Awards, Greater Geraldton's mayor has declared "this is our time for gold".

Geraldton has once again been named as a finalist in the top tourism town category, with its competition being Collie, Fremantle and Kalgoorlie-Boulder.

Busselton won gold last year.

Mayor Jerry Clune is confident 2025 could be Geraldton's year for a golden moment in the spotlight and issued a call to arms for the local and wider community.

"I'm immensely proud of our community and city officers who have helped us secure a spot as finalists," he said.

"Geraldton has claimed silver the past three years and this is our time for gold. We're calling on the entire community and the rest of WA to vote for Geraldton as the State's top tourism town."

Voting is now open for the top, small and tiny tourism town categories, with 18 towns in the running.

Kalbarri is eyeing off back-to-back gold in the tiny town category, named a finalist alongside Denham, Gascoyne Junction, New Norcia, Nullagine, Pemberton and Point Samson. The small town contenders are Bridgetown, Exmouth, Merredin, Narrogin, Tom Price, Toodyay and York. Exmouth has claimed gold in this category for the past three years.

Tourism Council WA CEO Evan Hall urged the public to back in their favourite holiday destination.

"It could be a town you've recently discovered, but where you felt incredibly welcomed in your time there — or it could be the place you visit every year because you always have a fantastic experience. This is your chance to have your say," he said.

Winners will receive an airtime package worth between $5000-$20,000 as well as a professionally produced Storytowns custom audio guide of their town, featuring two local legends. They will also progress to the national competition.

Voting closes at 5pm on May 1. If you vote, you also go into the draw to win a $5000 holiday in WA or a $500 voucher at any RAC park or resort.

Winners will be revealed at the 2025 Perth Airport WA Tourism Conference dinner in Fremantle on May 26. Visit toptourismtownwa.com.au to review the finalists and vote.

6.3.5 Midwest Times – 9 April 2025

Times
Wednesday, April 9, 2025
midwesttimes.com.au

Liberals promise more CCTV for region

MATTHEW PADDICK

The Federal Liberal Party has made its first Geraldton-specific election commitment, pledging half a million dollars to install CCTV cameras in the region.

They will be paid for by the Safer Communities Fund and installed in Geraldton and Mullewa.

The party confirmed the money would fund the installation of 19 security cameras.

"Getting Australia back on track means keeping Australia safe — safe for families, safe for businesses, and safe for communities," shadow home affairs and cybersecurity minister James Paterson said.

"Projects delivered under the Safer Communities Fund will help protect local communities by ensuring they have appropriate security infrastructure in place such as CCTV cameras, alarm systems and security lighting."

Federal member for Durack Melissa Price met City of Greater Geraldton representatives last month to discuss security needs in the area.

She said the funding would help the community feel safer and was a direct response to community concerns. "Expanding the City of Greater Geraldton's CCTV network will give police and emergency services better tools to prevent and respond to crime," she said.

"It's about real action to support law enforcement and to give locals greater peace of mind."

During the State election, Labor pledged to install two CCTV cameras in Geraldton as part of a $22.5 million Statewide community safety package.

CoGG chief executive Ross McKim, MP Melissa Price, community safety and crime prevention officer Clinton Marshall and mayor Jerry Clune.

Magistrate rules on bail

MATTHEW PADDICK

A man alleged to have struck a man and woman known to him with a vehicle after a street fight in Geraldton has been granted bail but not before the magistrate probed his anger issues.

Jayquarne Godfrey Neil Simpson, 20, was charged with two counts of with intent to do grievous bodily harm does grievous bodily harm to another, and one count of driver failed to stop and ensure assistance was received.

According to police, Mr Simpson allegedly drove a car along a footpath for about 40m before striking a 36-year-old man and a 32-year-old woman.

The man and woman were taken to Perth for medical treatment.

In Geraldton Magistrates Court on Monday, defence counsel Eloise Haslehurst argued Mr Simpson, who was previously refused bail, had exceptional circumstances due to a number of factors.

The court was told the accused was under the influence at the time of the police interview after the alleged incident, in which inconsistencies in facts meant some injuries to one of the victims may have already occurred.

Ms Haslehurst said her client's age, his opportunity to work, the fact he was a young father and a favourable home detention report meant there were enough factors to grant bail. Police said they opposed bail due to the serious nature of the alleged offences.

When making his ruling, magistrate Matthew Walton said it was difficult to assess but acknowledged Mr Simpson's newborn son was a factor to consider.

Mr Walton noted Mr Simpson appeared to have anger management issues, allegedly not being able to control his temper when his address had been requested by community corrections.

He addressed the accused directly and asked him why he got angry at the officers.

After Mr Simpson said he was frustrated due a number of factors, including not seeing his son, Mr Walton said he needed to look at himself and stop blaming everyone else for the things that had happened.

When asked if the accused had apologised for any wrongdoing, Mr Simpson said he did and he was doing his best to improve himself.

Mr Walton granted home detention bail with electronic monitoring at an address in Thornlie, and ordered Mr Simpson to present for urinalysis and a breath test at the discretion of community corrections. He was warned a positive reading would result in a breach of bail. Mr Simpson is due back in court on Monday, May 26.

6.3.6 Broome Advertiser – 10 April 2025

10 NEWS broomead.com.au Broome Advertiser Thursday, April 10, 2025

Urban plans get shire's nod

CAIN ANDREWS

From denser housing to livelier street fronts, Broome's urban future is taking shape after councillors signed off on two major precinct plans.

The Shire of Broome formally adopted the Cable Beach Precinct Structure Plan and the Chinatown Old Broome Precinct Structure Plan, following the council meeting on March 27.

The Cable Beach plan will increase default residential development potential to 50 per cent with the possibility of up to 70 per cent where conditions are met aiming to encourage more housing.

Smaller lots along Sanctuary Road can be developed without the need for tourist development, if the new development can achieve an active street front and commercial uses are on the ground floor.

For Chinatown Old Broome, the plan aims to celebrate and protect the area's cultural heritage while enabling redevelopment and revitalisation with key amendments including a review of zoning and residential densities to streamline mixed-use zoning and increase residential densities.

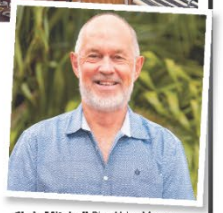
Shire of Broome president Chris Mitchell said the plans reflected the shire's commitment to maintaining the unique character of the precincts while embracing opportunities for growth

The Shire of Broome formally adopted the Cable Beach Precinct Structure Plan and the Chinatown Old Broome Precinct Structure Plan, following the Ordinary Council Meeting on March 27. Picture: Mogens Johansen

"We've worked hard to strike the right balance between supporting growth and development while respecting the rich cultural heritage of both Chinatown Old Broome and Cable Beach precincts," he said.

"Community consultation has been at the heart of these plans. The feedback we received from residents, businesses and local groups has been invaluable in creating a vision that is both forward-thinking and deeply rooted in the values of our community."

The plans, which will replace previous strategies and create a framework to guide future developments and improvements in public spaces around Broome, now await final approval from the Western Australian Planning Commission. It comes as Broome continues to grapple with a housing and rental crisis with median rental prices hitting $800 in April, according to the Real Estate Institute of WA figures. It follows the 2025 Priced Out report finding northern WA tenants were spending 55 per cent of their income on rent in March — the largest percentage in the nation.



Chris Mitchell Pic: Abby Murray

6.3.7 Kimberley Echo – 10 April 2025

Kimberley Echo
Thursday, April 10, 2025
kimberleyecho.com.au

It is alleged youths took a stolen ambulance on a 520km joy ride from a remote Northern Territory community to Halls Creek, where the vehicle was later found bogged in bushland.

Five youths on 520km joyride

SARAH CRAWFORD

A group of youths allegedly took a stolen ambulance on a 520km joyride from a remote community in the Northern Territory to Halls Creek where it rammed a police car injuring two officers.

Five youths aged between 12 to 14 were due to appear in Perth Children's Court on Monday charged with numerous offences including stealing the ambulance from Lajamanu in the Tanami Desert and reckless driving to escape police.

Northern Territory police allege the ambulance was stolen from the yard of the community health clinic at about 5am on Saturday and was then used to ram through the compound gates and flee the area.

The ambulance theft followed several hours of youths armed with rocks and bars entering a worker's camp and damaging buildings. However each time police responded, the youths would flee.

It is alleged the ambulance left Lajamanu with several youths onboard and was driven north to the remote community of Kalkarindji where more youths were picked up.

The ambulance was then driven over the WA border to Halls Creek. Police received reports that an ambulance was driving recklessly around the town.

Police pursued the ambulance and on a couple of occasions it is alleged the vehicle was driven straight at officers forcing them to take evasive action.

On one occasion the ambulance struck a parked police car on Roberta Avenue. Two officers in the vehicle were taken to hospital for treatment. At 1.20pm on Saturday the vehicle was found bogged in bushland.

Five youths were arrested at a Halls Creek home and taken into custody.

6.3.8 Koori Mail – 9 April 2025

news

Super failings cause suffering

A FIRST Nations woman distraught following her husband's death had to wait 500 days to get approval to access $100,000 in funds he had accrued and was given little support to navigate the process, despite her cultural barriers.

Another grieving widow was made to wait months and lodge the same documents over and over before finally being paid $600,000 in benefits owed to her.

An elderly man who had lost his wife to cancer and urgently needed access to funds owed to him to cover an outstanding mortgage had his payment unnecessarily delayed 28 days, causing "significant further distress".

Financial regulator the Australian Securities and Investments Commission found superannuation funds were responsible for delays caused by processing issues within their control in more than three-quarters of the death benefit claims it reviewed.

Industry peak body the Association of Superannuation Funds of Australia apologised on Monday for letting down members and their families after the personal toll of the industry's systematic claims handling failures were exposed.

The peak body for super funds has apologised after a financial watchdog report revealed delays were rife in paying out death benefits to bereaved families.

Trustees are facing a reckoning as the sector matures from wealth accumulation to decumulation, with a growing strain on resources to pay out millions of members.

After initiating legal proceedings against heavy hitters Cbus and AustralianSuper, the financial regulator is putting fund executives on notice to shape up.

"Many of the complaints we read were distressing," Commissioner Simone Constant said.

"We saw deep grief, vulnerability, frustration and genuine suffering."

Poor customer service was rife among the 10 trustees – representing 38 per cent of all benefits managed by super funds – the commission reviewed.

Funds failed to return claimants' phone calls, dismissed queries from grieving family members, or asked them for unreasonable information.

Death benefits refer to the remaining superannuation balance in a member's account after they die, which a beneficiary – usually a family member – is entitled to be paid as soon as practicable.

The super funds association acknowledged the report detailed "sobering examples of where service simply wasn't good enough".

"While the majority of our members and their families have a seamless experience with death benefits claims, we know we need to do better to make sure this is the experience of as many people as possible," chief executive Mary Delahunty said.

"Trustees need to take utmost care in paying death benefits, but excessive waiting, lack of communication and inconsistent processes are not acceptable."

The report, released on Monday, March 31, made 34 recommendations for funds to adopt.

They focused on improving customer service and speeding up response times, better monitoring and reporting, streamlined claims processes, better staff training and removing barriers for Indigenous claimants.

The super sector had made significant changes in the 12 months since the period examined and was implementing "many" of the recommendations, Ms Delahunty said.

While timelines to respond to claims varied greatly between funds, none of them closed more than half of claims within 90 days, the report found.

Colonial First State trustee Avanteos was the most timely performer, while Rest closed just eight per cent of claims within 90 days and had more than half of claims outstanding after six months.

None of the trustees monitored or reported on their end-to-end claim handling times or performance, revealing a gap in oversight.

The commission reviewed a mix of retail, public sector and industry super funds including big players such as Australian Retirement Trust and UniSuper.

The review did not include Cbus and AustralianSuper as the commission prioritised its legal action against them.

The federal government has pledged mandatory standards to force super funds to pay out death benefits faster and provide better communication to claimants if it is re-elected.

– AAP

6.3.9 National Indigenous Times – 26 March 2025

theibr.com.au THE INDIGENOUS BUSINESS REVIEW NIT 19

Rail firm lighting the way

Jackson Aldridge at the NSW Premier's Export Awards with Supply Nation CEO Kate Russell.

ZAK KIRKUP

If you've ever ridden on the Sydney Airport Link, the Malaysian Double Track, or the Singapore Circle Line, it's highly likely you've seen an Australian export in action.

Hidden in the world's major transport networks is the work of Aldridge Railway Signals, an Indigenous-owned company that has been driving innovation in railway signals for decades.

Founded by Kamilaroi man David Aldridge, Aldridge Railway Signals is a powerhouse in the transport infrastructure sector, supplying critical signals in Australia, Asia and beyond.

The company's journey began with a breakthrough in 1995 when it designed, made and commissioned Australia's first LED rail signals into the Sydney Underground System.

Aldridge is now a leading exporter at a time when recognition of Indigenous business success worldwide is growing.

In a landmark move, the Australian Export Awards have introduced the First Nations Exporter Award for the first time in its 63-year history.

The award acknowledges the increasing impact of Indigenous-led enterprises in global markets, with the First Nations Businesses Succeeding Internationally Report revealing Indigenous exporters generated over $670 million in revenue in 2022-23 and employed over seven times more workers than other First Nations businesses.

Aldridge has been a shining example of Indigenous business success, winning Indigenous Exporter of the Year at the Supply Nation Diversity Awards in 2023, and the Indigenous Exporter Award at the 2024 NSW Premier's Export Awards.

For Mr Aldridge, these accolades are not just about recognition — they are about opportunity. "There are a lot of people out there who help Indigenous exporters, and they are always happy to help," he says.

Export markets now make up 43 per cent of Aldridge's turnover, with markets as diverse as Thailand, Taiwan, Malaysia, Singapore, Hong Kong, Sri Lanka, Indonesia, the Philippines, and New Zealand among its key destinations. But Mr Aldridge says success doesn't come from waiting for opportunities.

"You cannot export from behind a computer. You've got to get out, get up and running. Go meet clients. Speak to people. Just putting yourself out there including for awards," he says.

Managed by Austrade, the Australian Export Awards celebrate the country's successful and innovative exporters. Applications for the 2025 awards open on April 29 for six weeks. visit www.exportawards.gov.au.

Okha Floating Production Storage and Offloading Facility Operations Environment Plan

Woodside has led the development of the LNG industry in Australia and today aims to thrive through the global energy transition.

Woodside consults with relevant persons to gather feedback to inform its Commonwealth Environment Plans.

Okha Floating Production Storage and Offloading (FPSO) Facility Operations Environment Plan (EP)

With the five-year EP revision, Woodside plans to continue operation of the Okha FPSO facility which extracts, processes and stores oil and export gas. Vessel-based routine inspection, monitoring, maintenance and repair activities are planned to support 13 subsea wells and infrastructure.

Environment that may be affected (EMBA)

The EMBA is the largest geographic area where unplanned activities could potentially have an environmental consequence. The whole EMBA will not be affected.

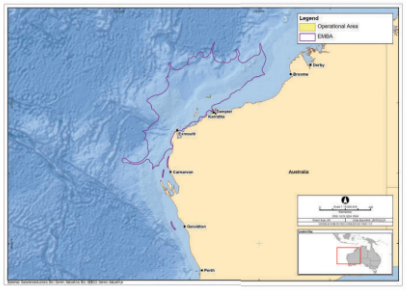
We want to hear from you

If you are an individual, organisation or community group and believe your functions, interests or activities may be impacted by the activities under this Environment Plan, we want to hear from you by **16 May 2025.**

To find out more go to:

www.woodside.com/what-we-do/consultation-activities

You can also subscribe via our website to receive future information on upcoming activities. **The consultation information sheet for the Okha FPSO Facility Operations EP will be available starting 7 April 2025.**



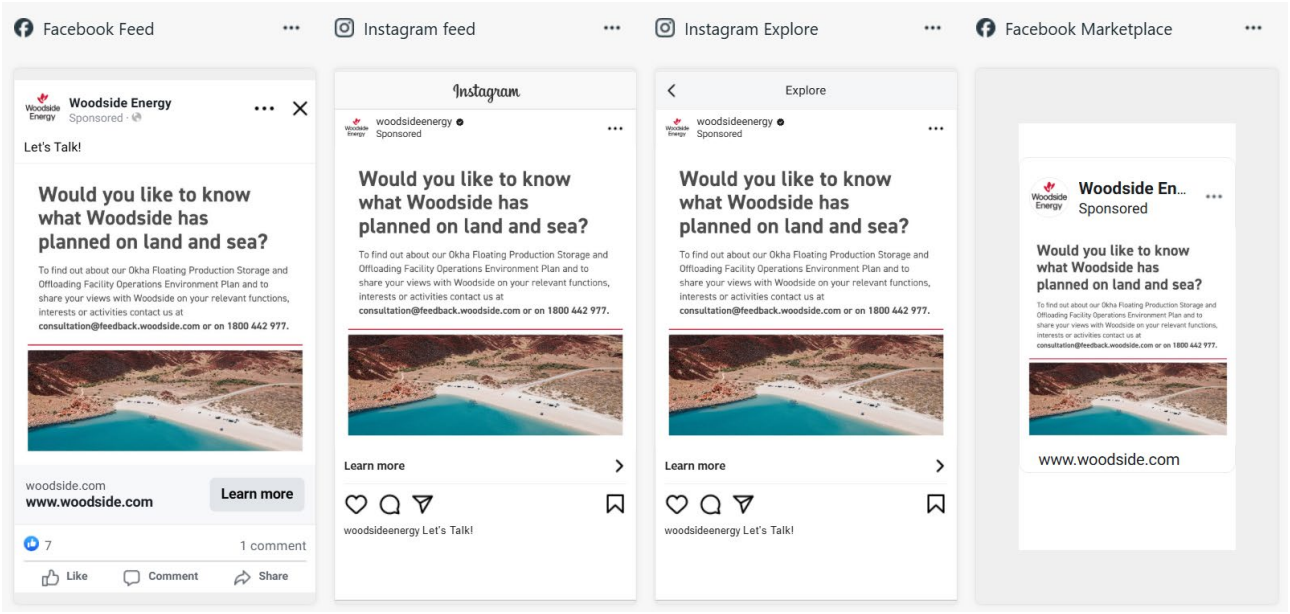
consultation@feedback.woodside.com
Toll free: 1800 442 977
woodside.com

Woodside Energy

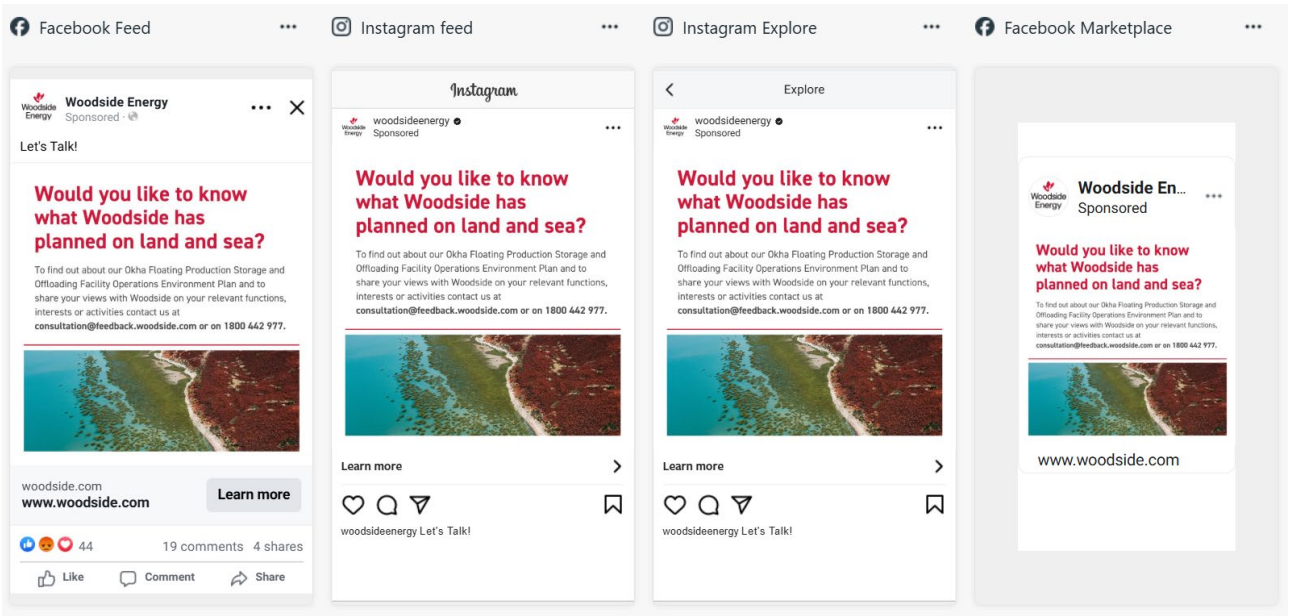
6.4 Social media

6.4.1 Social media EP targeted campaign

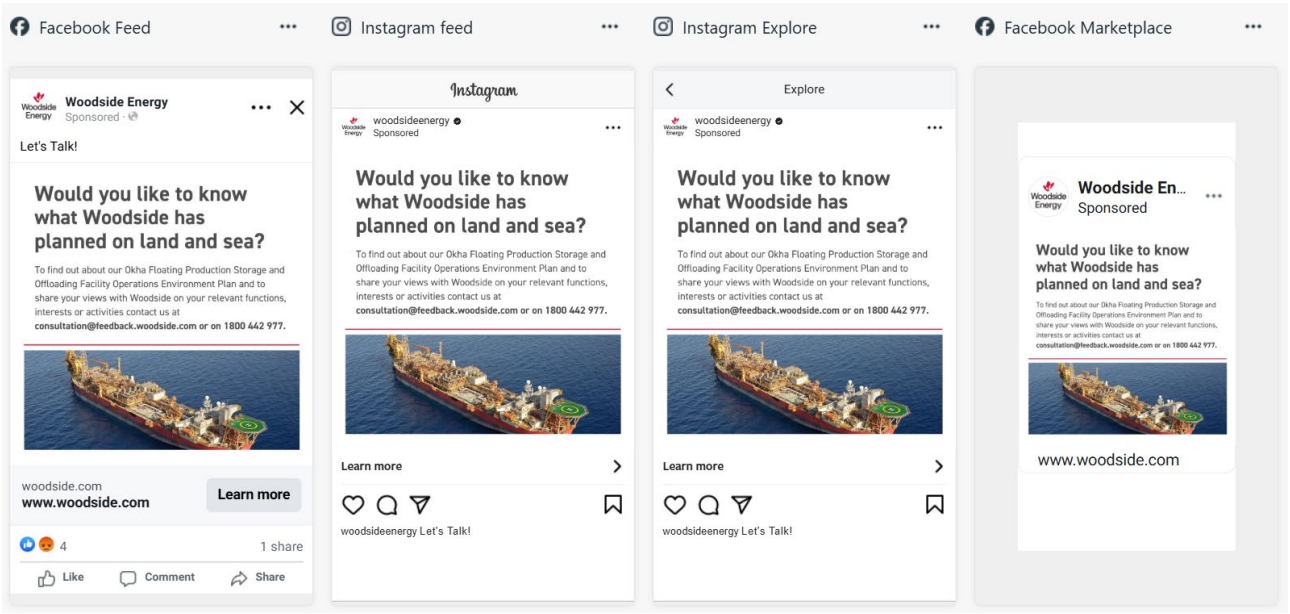
Tile design 1



Tile design 2



Tile design 3



6.5 Community information sessions

The community information sessions that Woodside has conducted are captured below:

6.5.1 Pilbara Region

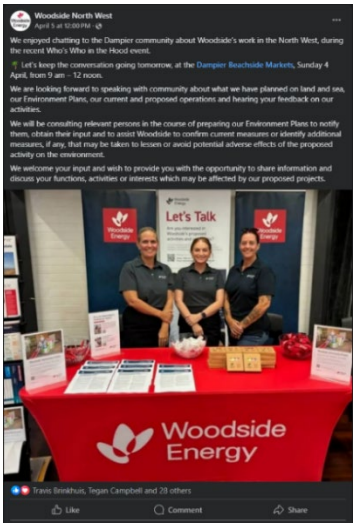
6.5.1.1 Dampier Beachside Markets – 6 April 2025

Location	Dampier
Activity	Dampier Beachside Markets
Date	6 April 2025
Description of the consultation	Woodside hosted a stand at the Dampier Beachside Markets, a community event bringing together local businesses selling local products, a variety of food vendors and community groups. The stand was staffed by members of Woodside's Corporate Affairs, Environment Plan and First Nations teams. Woodside displayed a QR code at the stand, linked to the 'Consultation activities' page of the Woodside website. Woodside displayed and made available printed consultation information sheets on the Okha FPSO Facility Operations EP.
Advertising and invitations	Woodside advertised the event to enable individuals to self-identify, become aware of the community consultation, and to allow individuals to provide feedback on proposed activities, through the following: • An advertisement published in the Pilbara News on 26 March 2025 (see below) • Social media posts on the Woodside North West Facebook page inviting the public to attend (see below) • A social media post from event host, Dampier Community Association, published on 5 April 2025 inviting public to attend

	• An advertisement displayed on community noticeboards at Lo's Café in Karratha, and the Karratha and Roebourne libraries • An EP consultation display with QR code (linked to the 'Consultation activities' page on the Woodside website) displayed at Woodside's stand along with current EP consultation information sheets (see below).
Estimated number of individuals / organisations consulted	Over 1200 community members (Dampier Community Association) attended the event. Woodside spoke to many community members, recording 30 conversations.
Summary of Feedback, Objection or Claim	
• Queries around employment opportunities, including apprenticeship and trainee opportunities. • Interest in local content opportunities. • General interest in the Scarborough Energy Project progress and Pluto Train 2 and Train 1 modifications projects. • Comments were made about the views of some issue motivated groups. Woodside expressed everyone has the right to share their views in a respectful and peaceful manner. • Conversations on the North West Shelf Project Extension including support for local community, timelines, investing partners, political views and the future of gas in the energy transition. • EP consultation and approval process discussed and why we want to talk to community. No concerns raised. • General interest in Woodsides commitment to emission reduction, positive feedback on meeting commitments. • Discussions around the area's housing market, residential and Fly In/Fly Out workforce. • Several discussions with children about what Woodside does and where gas comes from.	
Woodside's Assessment of Merits of Feedback, Objection or Claim and its Response	
Whilst feedback was received, there were no objections or claims raised about EPs. Woodside's participation at the markets is part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).	

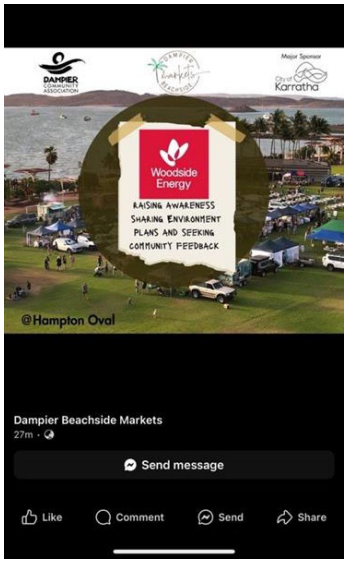
Evidence of promotion and event

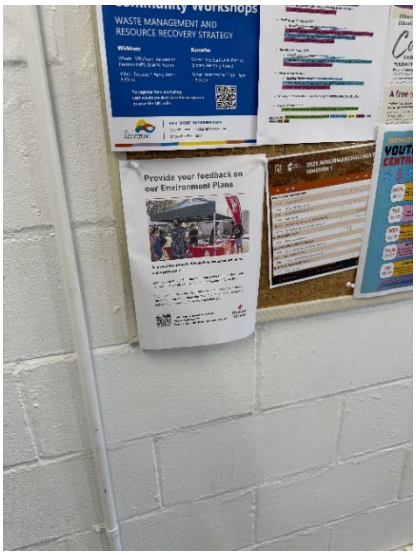
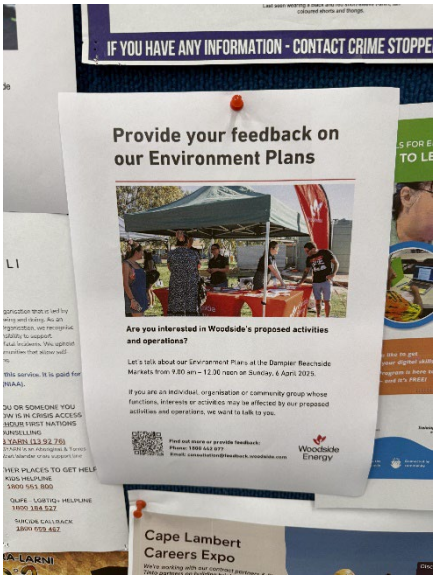
Social Media promotion, Woodside North West Facebook page, 5 April 2025	Social Media promotion, Woodside North West Facebook story April 2025, published for 24 hours

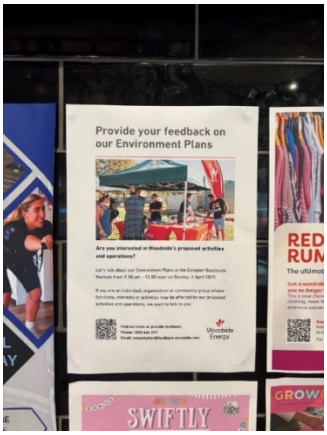


Social media - Dampier Beachside Markets Facebook page, 5 April 2025

Newspaper advertisement, Pilbara News, 26 March 2025



BP Service Station, Roebourne, poster on display from 25 March 2025	**Ngarliyarndu Bindirri Aboriginal Corporation Office, Roebourne, poster on display from 25 March 2025**
	
Ieramagadu Store community noticeboard, Roebourne, poster on display from 3 April 2025	**Lo's Cafe community notice board, Karratha, poster on display from 25 March 2025**
	

Karratha City Plaza Shopping Centre community notice board, Karratha, poster on display from 25 March 2025	Good Grocer IGA community notice board, Karratha, poster on display from 25 March 2025
	
Dampier Beachside Markets **Consultation Information sheets at stand**	

Consultation Information sheets	Banner with QR code for Consultation Information sheets
	

6.5.1.2 Dampier Beachside Markets − 4 May 2025

	Location: Dampier
Activity	Dampier Beachside Markets
Date	Sunday, 4 May 2025

Description of the consultation	Woodside hosted a stand at the Dampier Beachside Markets, a community event bringing together local businesses selling local products, a variety of food vendors and community groups. The stand was staffed by members of Woodside's Corporate Affairs and First Nations teams. Woodside displayed a QR code at the stand, linked to the 'Consultation activities' page of the Woodside website. Woodside made available printed consultation information sheets on the Okha FPSO Facility Operations surveys EP.
Advertising and invitations	Woodside advertised the event to enable individuals to self-identify, become aware of the community consultation, and to allow individuals to provide feedback on proposed activities, through the following: • An advertisement published in the Pilbara News on 30 April 2025 (see below) • Social media post Dampier Community Association Facebook page advising that Woodside would be in attendance at the event. • An advertisement displayed on community noticeboards at Lo's Café, IGA Karratha, Karratha City Plaza Shopping Centre, in Karratha, and the Karratha and Roebourne libraries • An EP consultation display with QR code (linked to the 'Consultation activities' page on the Woodside website) displayed at Woodside's stand along with current EP consultation information sheets (see below).
Estimated number of individuals / organisations consulted	Over 1200 community members attended the event. Woodside spoke to many community members, recording 20 conversations.

Summary of Feedback, Objection or Claim

- Queries around employment opportunities, including apprenticeship and trainee opportunities.
- Interest in local content opportunities.
- General interest in the Scarborough Energy Project progress and Pluto Train 2 and Train 1 modifications projects.
- Comments were made about the views of some issue motivated groups. Woodside expressed that everyone has the right to share their views in a respectful and peaceful manner.
- Conversations on the North West Shelf Project Extension including support for local community, timelines, investing partners, political views and the future of gas in the energy transition.
- EP consultation and approval process discussed and why we want to talk to community. No concerns raised.
- General interest in Woodside's commitment to emission reduction; positive feedback on meeting commitments.
- Discussions around the area's housing market, residential and Fly In/Fly Out workforce.
- Several discussions with children about what Woodside does and where gas comes from.

Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response

Whilst feedback was received, there were no objections or claims.

The community information sessions were part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).

Evidence of promotion and event

Advertisement Pilbara News − 30 April 2025	Social media Dampier Beachside Markets Facebook − 3 May 2025
	
Advertisement **Good Grocer Karratha IGA community notice board − 30 April 2025**	**Advertisement** **Karratha City Plaza community noticeboard − 30 April 2025**
	

Banner at event	Consultation Information Sheets at event
	

Consultation Information sheets at event


6.5.1.3 Red Earth Arts Festival (REAF) @ The Quarter – 15 & 16 May 2025

	Location: Karratha
Activity	Red Earth Arts Festival (REAF) @ The Quarter
Date	Thursday 15 and Friday 16 May 2025
Description of the consultation	Woodside hosted a stand at the Red Earth Arts Festival, a community event bringing together markets, community members and an art installation as part of the festival. The stand was staffed by members of Woodside's Corporate Affairs, Environment and First Nations teams. Woodside displayed a QR code at the stand, linked to the 'Consultation activities' page of the Woodside website. Woodside displayed and made available printed consultation information sheets on the following EPs: Woodside made available printed consultation information sheets on the Okha FPSO Facility Operations EP.
Advertising and invitations	Woodside advertised the sessions to enable individuals to self-identify, promote awareness of the community consultation, and enable individuals to provide feedback on proposed activities, through the following: • Advertisement in Pilbara News on 14 May 2025 • Posters displayed at notice boards across Karratha and Roebourne • Social media posts published on the Woodside North West Facebook page inviting the public to attend (see table below) • EP consultation banner with QR code (linked to 'Consultation activities' page on Woodside website), displayed at Woodside's stand along with current EP consultation information sheets (see table below).
Estimated number of individuals / organisations consulted	Over the Red Earth Arts Festival 1000 community members attended the event. Woodside spoke to many community members, recording 20 conversations.
Summary of Feedback, Objection or Claim	

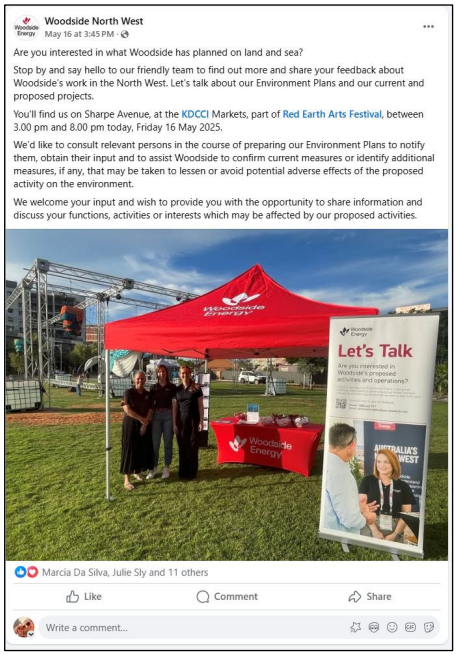
- Queries around employment opportunities, including apprenticeship, trainee and graduate opportunities.
- General interest Woodside operated assets including King Bay Supply Base, Karratha Gas Plant, Scarborough Energy Project progress, Pluto Train 2 and Train 1 modifications projects.
- Conversations on the North West Shelf Project Extension including support for local community, timelines, investing partners, political views and the future of gas in the energy transition.
- Queries relating to whales, in particular pygmy blue whales and the research that Woodside has contributed to over 30 years. In addition, two community members wanted to know about Seismic activities and impacts to whales.
- Queries relating to air emissions and flaring with several flaring fact sheets being given to members of the public.
- Queries around bird migrations and impacts to birds as a result of Woodside's operations. Mitigations were discussed.
- EP consultation and approval process discussed and why we want to talk to community. No concerns raised.

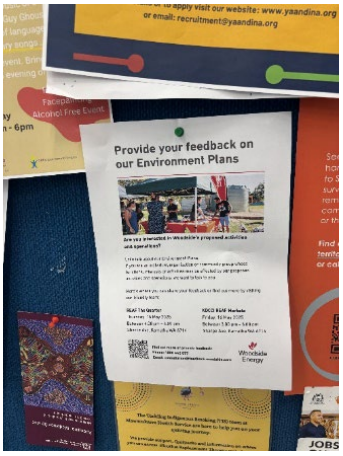
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response

Whilst feedback was received, there were no objections or claims.

The community information sessions were part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).

Evidence of promotion and event

Advertisement Pilbara News – 14 May 2025	Social media Woodside North West Facebook – 16 May 2025
	

Advertisement **Ieramugadu Store Community Notice Board, Roebourne − 7 May 2025**	**Advertisement** **Ngarliyarndu Bindirri Aboriginal Corporation Community Notice Board, Roebourne − 7 May 2025**
	
	

Advertisement **Karratha City Shopping Centre** **− 7 May 2025**	**IGA Shopping Centre, Nickol – 7 May 2025**
	

6.5.1.4 Dampier Beachside Markets − 15 June 2025

	Location: Dampier
Activity	Dampier Beachside Markets
Date	Sunday, 15 June 2025
Description of the consultation	Woodside hosted a stand at the Dampier Beachside Markets, a community event bringing together local businesses selling local products, a variety of food vendors and community groups. The stand was staffed by members of Woodside's Corporate Affairs, Global Heritage and First Nations teams. Woodside displayed a QR code at the stand that links to the 'Consultation activities' page of the Woodside website. Woodside made available printed consultation information sheets on the Okha FPSO Facility Operations EP.
Advertising and invitations	• Woodside advertised the event to enable individuals to self-identify, become aware of the community consultation, and to allow individuals to provide feedback on proposed activities, through the following: • An advertisement published in the Pilbara News on 11 June 2025 (see below). • A social media post on the Dampier Community Association Facebook page advising that Woodside would be in attendance at the event (see below). • A social media story displayed for 24 hours via Woodside North West Facebook account advising that Woodside would be in attendance at the event (see below). • An advertisement displayed on community noticeboards at Lo's Karratha, BP Service Station Roebourne and Ieramagadu Cafe Roebourne (see below). • An EP consultation display with QR code (linked to the 'Consultation activities' page on the Woodside's website) displayed at Woodside's stand along with current EP consultation information sheets (see below).

Estimated number of individuals / organisations consulted	Over 1200 community members attended the event. Woodside spoke to many community members, recording 20 conversations.

Summary of Feedback, Objection or Claim

- Queries around employment opportunities, including apprenticeship and trainee opportunities.
- Interest in local content opportunities.
- General interest in the Scarborough Energy Project progress and Pluto Train 2 and Train 1 modifications projects.
- Comments were made about the views of some issue motivated groups. Woodside expressed that everyone has the right to share their views in a respectful and peaceful manner.
- Conversations on the North West Shelf Project Extension including support for local community, timelines, investing partners, political views and the future of gas in the energy transition. Many pro approval.
- Discussions and awareness building on the Murujuga Rock Art Monitoring Program. No concerns raised.
- Interest in Woodside's supply of DOMGAS to WA.
- Environment Plan community consultation and approval process discussed and why we want to talk to community. No concerns raised.
- Interest in the North West Shelf Project Visitors' Centre opening hours.
- Several discussions with children about what Woodside does and where gas comes from.

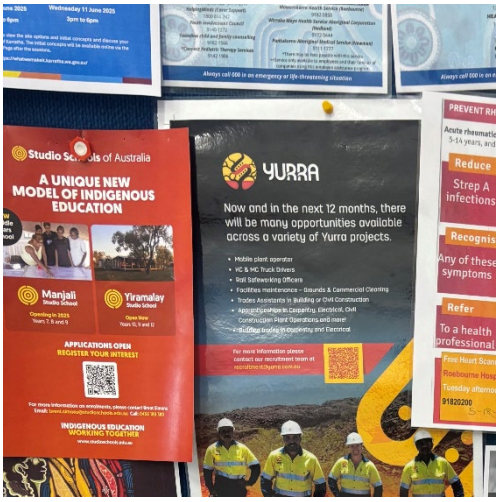
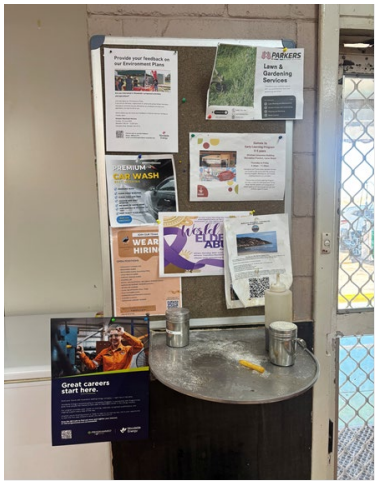
Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response

Whilst feedback was received, there were no objections or claims.

The community information sessions were part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).

Evidence of promotion and event

Advertisement Pilbara News – 11 June 2025	Social media Dampier Beachside Markets Facebook – 14 June 2025
	

Advertisement **Ieramagadu Store, Roebourne community notice board – 11 June 2025**	**Advertisement** **BP Service Station Roebourne, community noticeboard – 11 June 2025**
	
Lo's Cafe, Karratha community notice board – 11 June 2025	**Social Media promotion** **Woodside North West Facebook Story – 14 June 2025**
	

Banner at event	Consultation Information Sheets at event
	

Social media campaign results

Platform	Date	Description	Number of views	Reach	Interactions
Woodside North West Facebook page	14 June 2025		289 views over 24 hours	282	1

6.5.2 Gascoyne Region

6.5.2.1 Ningaloo Sky Festival Markets – 28 June 2025

	Location: Exmouth
Activity	Ningaloo Sky Festival

Date	28 June 2025
Description of the consultation	Woodside hosted a stall at the Ningaloo Sky Festival in Exmouth to engage community members on our activities. The stand was staffed by Woodside Environment and Corporate Affairs representatives. Information on Woodside's research in the Ningaloo region, Woodside's Climate progress, leaflets providing QR codes to Woodside's Annual Report and Sustainability information, 'Let's Talk' (a publication on the company's Australian activities) were available. Woodside made available printed consultation information sheets on Okha FPSO Operations.
Advertising and invitations	Woodside promoted the session with the Exmouth Community Liaison Group to enable individuals to self-identify, promote awareness of the community consultation.
Estimated number of individuals / organisations consulted	Over 200 community members attended the event. Woodside spoke to many community members, recording approximately 25 conversations.

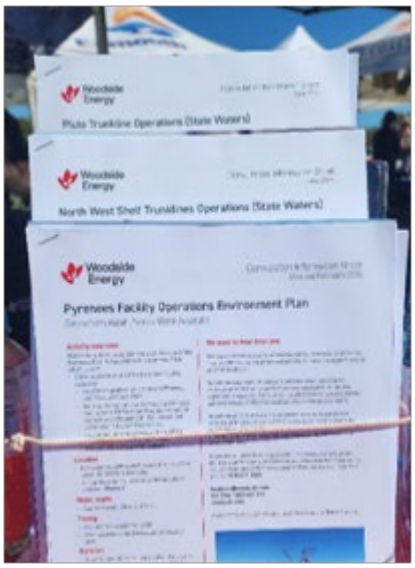
Summary of Feedback, Objection or Claim

- General queries about Woodside's footprint in Exmouth and the two facilities visible from the coast (Pyrenees and Ngujima-Yin FPSOs).
- General conversations about Woodside's activities in Western Australia, including the North West Shelf and progress on the Scarborough Project.
- Query on the Woodside-CSIRO Ningaloo Outlook program and opportunities for further research in the Exmouth area.
- Questions relating to the current status of the Browse project and considerations for Scott Reef.
- Query about domestic gas supply and the capacity of the Dampier Bunbury Pipeline.
- General interest in Woodside's environmental management measures and mitigations.
- Questions around employment opportunities, in particular apprenticeship opportunities.
- Query about the development of a port in Exmouth and whether Woodside had involvement in the proposal.
- Interest in general Woodside updates from stakeholders identifying themselves as shareholders.

Woodside Energy's Assessment of Merits of Feedback, Objection or Claim and its Response

Whilst feedback was received, there were no objections or claims.

The community information sessions were part of Woodside's broader consultation approach to enable self-identification and provide relevant persons with the opportunity to assess any impacts on their functions, interests or activities, and provide feedback on proposed activities, which is consistent with the intended outcome of consultation (see Section 5.2).

Woodside stand	Information sheets
	
Information sheets	**Information sheets**
	

6.6 Community newsletters

6.6.1 Karratha community update

Edition Q1 – 2025

Karratha Community Update

April 2025

Liz Westcott Executive Vice President and Chief Operating Officer Australia.

Woodside hopes to keep on contributing

As seen in the Pilbara News - Wednesday, 12 March 2025.

Last year, Woodside celebrated 70 years as a proud Australian company, and the North West Shelf Project marked 40 years of operations from right here in Karratha.

We are proud to be a part of this community. It's where our story started.

But there is currently a debate playing out that could determine the future of the North West Shelf Project and the ongoing operation of its Karratha Gas Plant.

The North West Shelf Project Extension approval is required to enable operations beyond 2030.

Let's be clear — this approval does not involve expanding our onshore infrastructure or footprint on Murujuga.

It allows us to continue our existing operations across the North West Shelf Project.

In December last year, six years after we applied, the State Government approved the North West Shelf Project Extension proposal, with conditions including cultural heritage, emissions and air quality. We take our responsibility to manage cultural heritage seriously, guided by Traditional Owners, heritage experts and credible science.

Following the robust assessment from the State, a final decision now rests with the Federal Government, and the stakes are high.

The North West Shelf Project supplies 14 per cent of WA's domestic gas — gas that not only powers homes, but also the mining operations and industries that provide many local jobs and underpin the economic strength of the Pilbara and Australia.

The North West Shelf Project alone employs about 900 people, and some 1300 contractors.

Almost 300 Woodsiders and their families live locally and work at the Karratha Gas Plant.

This year they were joined by 22 new apprentices and trainees who were welcomed into the Woodside Training Academy.

In 2024, the North West Shelf Project invested $5.1 million in the Karratha community on initiatives including education, health and liveability. Annually we spend around $1 billion with WA businesses, including contractors and service providers based in Karratha, and in 2024 about 700 WA businesses were engaged by the North West Shelf.

Last year I was pleased to be able to join some of our longstanding partners in Karratha as we celebrated our 40-year milestone.

I spoke with representatives from local schools, businesses and not-for-profit community organisations. I was humbled by what Woodside and the community here in Karratha have built together over the four decades of North West Shelf operations.

And it can continue to contribute, supporting our State's gas supply, the economy and the Karratha community for decades to come.

Extending the life of the North West Shelf Project will enable the future of our world-class operations, using existing infrastructure to produce the gas that local industry needs and our regional partners rely upon.

It enables us to leverage our decades of experience while unlocking long-term value through the development of the remaining North West Shelf reserves and processing of third-party gas.

Importantly, it allows us to make the business decisions today that will help maximise the use of processing capacity at the Karratha Gas Plant into the future.

With the Australian Energy Market Operator forecasting gas shortfalls in WA from 2028, extending the life of the North West Shelf Project makes sense.

But to be in a position to do this, we need a pragmatic approach from our nation's decision-makers. We need timely decisions to provide operational certainty and confidence to support the ongoing development of gas reserves that will keep the Karratha Gas Plant running.

We can all be proud of what the North West Shelf Project has contributed to Karratha over the last 40 years – and we're working to secure its ongoing contribution to the community we call home.

Stay up to date on our continued contribution to the local community Woodside North West

Woodside Energy recognises Aboriginal and Torres Strait Islander peoples as Australia's first peoples.

We acknowledge the unique connection of the Traditional Custodians to land, waters and the environment where we operate in the City of Karratha. We extend this recognition and respect to First Nations peoples and communities around the world.

L-R: Roebourne District High School Chaplain Beth Smith, Roebourne District High School Principal Liz Ritchie, Woodside CEO Meg O'Neill, WA Premier Roger Cook and Kevin Michel MLA.

Investment continues to reach students in Roebourne

Woodside welcomed the new year with an exciting announcement.

In January, our CEO Meg O'Neill joined us at Roebourne District High School to share details of our significant contribution to the school's redevelopment.

Alongside WA Premier Roger Cook, Meg announced a contribution of $20 million over five years to the upgrades. Woodside's contribution will come from our A$50 million commitment to the Western Australian Government's Resources Community Investment Initiative.

Meg said funding was directed towards programs that deliver tangible benefits for the sustainability and liveability of our host communities.

"Our investment in the Roebourne District High School upgrades builds on our long-term commitment to positive regional education outcomes through the Karratha and Roebourne Education Initiative," said Meg.

For more than 16 years, we have proudly contributed to the Karratha and Roebourne Education Initiative (KREI) together with our joint venture participants. The partnership with local schools invests in opportunities to support the academic achievements of students and the development of their dedicated teachers.

Roebourne District High School is one of the long-standing participants of the KREI.

In 2024, the school developed a program to support students sitting the Western Australian Department of Education's Online Literacy and Numeracy Assessment (OLNA). Designed for secondary students to demonstrate they successfully meet the minimum standard of literacy and numeracy, the OLNA is an important step in supporting students on their path to further study and training.

Several students at the school were identified as requiring additional assistance and intervention to reach an OLNA pass level in one or more of the assessment areas.

Through the support of the KREI, individual learning and social needs of each student preparing to sit the OLNA were assessed so educational support could be tailored. Resources such as one-to-one and small group tutoring opportunities, and online training tools were provided focusing on building the skills required to improve students' OLNA results.

Roebourne District High School Principal Elizabeth Ritchie said the students who participated demonstrated greater levels of confidence when sitting the OLNA, resulting in one of the highest recorded sittings for the test at our school.

"The OLNA achievements of participating students have not only enhanced their own education experience but is positively impacting peers, because our students are actively supporting their classmates to improve their own reading, writing, and numeracy skills," said Elizabeth.

Stay up to date on our continued contribution to the local community Woodside North West

Woodside helps connect Cherratta to Country

Woodside was proud to award a $35 million contract to Cherratta Lodge earlier this year. The agreement marks the first time Woodside has awarded a village accommodation contract to a business owned by a Traditional Owner.

Under the agreement, Cherratta will accommodate the Pluto Train 1 modifications construction workforce, part of the Scarborough Energy Project.

Woodside initiated discussions last year with long-standing partner Cherratta Lodge, based in Karratha's Industrial Estate.

It was then that Cherratta owner Malcolm Wylie raised the prospect of a new partnership that could transition the site into a village owned and operated by a Traditional Owner – someone with traditional connections to the area.

Malcolm's vision was twofold: to give back to the community in which the business operates and for the site to become a leading facility providing career opportunities for Indigenous people.

"Not everyone wants to or can work on a mine site or a gas plant. A place like Cherratta not only provides jobs like gardening, cleaning, catering, access to trades and apprenticeships, it will deliver mentorship and empowerment programs for fledgling Indigenous businesses," said Malcolm.

Together with his business partner Aaron Polini, Malcolm invited Traditional Owner and Ngarluma Elder Harry Mowarin to join them in the ownership of Cherratta, after building a trusting friendship and agreeing on solutions to challenges together.

"As part of Cherratta's new energy projects, the company awarded a $1 million contract to Harry's contracting business," said Malcolm.

"Harry is a Ngarluma Elder who is well respected in the community and during the successful execution of this contract we realised Harry was the perfect fit for Cherratta. Through our programs he could help guide Indigenous people to learn, grow, develop skills and increase their confidence in an environment that is culturally safe, and on their own country."

L-R: Harry Mowarin Traditional Owner and Ngarluma Elder, Malcolm Wylie Cherratta Lodge business partner, Julie Attwood Local Content Manager and Rebekka Scroop Villages Coordinator.

Rebekka Scroop, our Villages Coordinator and Woodside's Local Content Manager, Julie Attwood both realised the potential significance of the agreement and the value it could provide to the local Indigenous community where we operate.

"It made sense. Woodside's contract would provide Cherratta with the confidence and security to support their transition to become a Traditional Owner village by securing a fixed number of rooms over three years, for the Pluto Train 1 modifications workforce," said Rebekka.

"By coming together to work towards a common goal, we had the opportunity to create a significant impact that will leave a lasting legacy for generations to come," said Rebekka.

Harry is overwhelmed by the opportunities this landmark agreement can create for both his family and his people. "This connection with Cherratta is life changing for me and my family."

"It's something that I never thought would be possible in my lifetime. For me, it's generational healing. I want to leave something behind for the emerging generation, for them to set themselves up and have a chance at a decent life," said Harry

Woodside Training Academy graduates and mentor award winners.

Woodside's own Academy Awards

Eighteen apprentices and trainees have joined the ranks of Woodside Training Academy participants who have been welcomed into roles across our operations.

The Woodside Training Academy Graduation and Awards held at Red Earth Arts Precinct saw the cohort celebrated for their achievements in completing their training.

Reflecting on the event, Academy Team Lead Jacqui Meeson said it provided a special opportunity to recognise the entire graduating group and the outstanding performance of individuals throughout their training.

"The award recipients were not only selected for their excellence during their training but also for their dedication, commitment and consistent demonstration of Woodside's values," said Jacqui.

"We are incredibly proud of what all of the apprentices and trainees have accomplished across their learning journey and we look forward to seeing their continued success throughout their careers with Woodside."

Several Woodsiders were acknowledged alongside the graduates for the support they provided the trainees and apprentices during their time at the Academy.

In his opening address, NWS Onshore Asset Manager Derek Paulgaard expressed his thanks for those across the business who played an essential role in contributing to the growth and development of the cohort.

"When the graduates faced challenges throughout their training, they had a network of family and friends to provide support and guide them. They also had a group of trainers, mentors, supervisors and peers who they could rely on," said Derek.

This year, 22 Karratha-based apprentices and trainees have been recruited by our partner Programmed Training Services and will be hosted at the Woodside Training Academy.

The 2025 intake includes seven operator trainees, 10 apprentices, three pre-pathway trainees and two school-based trainees – one trainee from Karratha Senior High School and one from Roebourne District High School.

Thirteen of the training participants are female and 14 are Indigenous. They are now part of the more than 80 apprentices and trainees building their skills and experience across our Western Australian operations.

Stay up to date on our continued contribution to the local community Woodside North West

Dampier Playgroup was previously awarded a Woodside Community Grant to help purchase new play equipment.

Giving back through community grants

Last year, we extended our grant offerings in the City of Karratha in celebration of our 70 years as a proud Australian company and four decades of safe and reliable operations in the place we call home.

Ten community and not-for-profit organisations were awarded Woodside Anniversary Grants of up to $100,000 for programs and activities that deliver positive local outcomes.

This March, we ran our first of two community grants rounds for 2025. If you missed out, don't worry, applications will be open again in October.

We have been running the program for seven years, awarding grants of up to $5,000 to support community initiatives in the City of Karratha and Shire of Exmouth.

It's part of our commitment to building local capacity and supporting opportunities that strengthen wellbeing in the community.

We were excited to announce the recipients of our Woodside Anniversary Grants in January.

Woodside Executive Vice President and Chief Operating Officer Australia Liz Westcott said Woodside and its joint venture participants in the North West Shelf Project and Scarborough Energy Project's Pluto Train 2 were pleased to support these valuable initiatives.

"Karratha is where our Western Australia story began and we understand that being a part of the community is centred on developing strong relationships and making meaningful contributions," said Liz.

"We have done this for 40 years and look forward to continue supporting projects and programs that provide local solutions to local challenges."

Grant recipients included:

- St John Ambulance to help purchase new ambulances and lifesaving equipment across its Karratha, Roebourne and Wickham operations.
- Yaandina Community Services for the installation of air-conditioning in its Roebourne residential detoxification facility.
- Yinjaa-Barni Art to support upgrades at its Roebourne art studio.
- The WA Centre for Rural Health to deliver a business case to support the development of a Centre for Applied Research and Education (CARE) hub in Karratha.
- Reach Us Pilbara for the purchase of equipment for its Karratha cancer support services centre.
- Juluwarlu Group for the delivery of the Yindjibarndi Wellness pilot program for Jadas and Gurri.
- Karratha RSL for the installation of solar panels, battery storage and new air-conditioners in its facility.
- Pilbara for Purpose to support the delivery of cultural competency training for community service providers.
- Karratha Volunteer Fire and Rescue Services to support the upgrade of storage facilities to support year-round storage of firefighting equipment.
- Dampier Community Association for the purchase of kitchen equipment to support activation of the Dampier foreshore kiosk.

If you would like more information about our next round of grants, you can contact us at northwestcommunities@woodside.com

Listening to our local community

Our approach to social performance at Woodside begins with understanding the potential impacts and opportunities associated with our activities.

Consultants from GHD recently visited Karratha and met with a range of stakeholders to inform Woodside's socio-economic impact assessment. Participants included Woodside's Karratha Community Liaison Group, local businesses, state and local government bodies, social contribution partners and healthcare providers.

During the engagements, participants were presented with a series of scenarios for our ongoing operations and proposed projects in the City of Karratha. Their valuable reflections and insights in response to the scenarios will assist in the identification and management of social impacts and benefits, including opportunities to contribute to the local community.

Woodside's Senior Social Performance Adviser David Collins is leading the assessment scope and said it is important to have the local community be a part of the journey.

"Over the past 40 years of operations, we have built strong relationships in community to enable ongoing engagement across all phases of our activities," said David.

"This is an important piece of work to understand sentiment towards Woodside by listening to concerns and asking how we can best manage impacts on a local level."

The socio-economic impact assessment will continue throughout 2025 as GHD visits community stakeholders in Roebourne.

To find out more about Woodside's approach to social performance please visit our website.

GHD consulting with local business Yurra.

Let's Talk

Our plans, Your say

Scan the QR code or head to woodside.com/consultation-activities to read our latest edition and Environment Plan consultation information.

We welcome feedback on your relevant functions, activities or interests. Alternatively, you can contact us at consultation@feedback.woodside.com or on 1800 442 977.

6.6.2 Let's Talk – Our Plans, Your Say

6.6.2.1 Let's Talk March 2025

Hard copy distribution − March 2025

Date (2025)	Location	Event (if applicable)
8 March	Karratha	Karratha and Districts CCI – International Women's Day event
11 March	Karratha	City of Karratha administration waiting room
11 March	Karratha	NWS Visitors' Centre
11 to 13 March	Perth	Energy Exchange Australia Conference
12 March	Roebourne	Woodside's Roebourne office
21 March	Karratha	Karratha Community Liaison Group
13 March	Exmouth	Exmouth Community Liaison Group
21 March	Dampier	Dampier Community Association
6 April and 4 May	Dampier	Dampier Beachside Markets
15 and 16 May	Karratha	Red Earth Arts Festival (REAF)

Let's Talk March 2025 edition

Woodside Energy

Let's Talk

Our Plans, Your Say

Edition 5 | March 2025

Heritage auditors walking along eastern outside boundary of Pluto LNG Plant on Murujuga Country

The rundown

Cultural Connections: Woodside's Commitment to Heritage Management

Woodside has operated on the Burrup Peninsula (Murujuga) in the Pilbara region of Western Australia for more than 40 years. We've matured our approach to heritage management considerably over this time, and are proud of the relationships we have built with Traditional Owners and Custodians.

Every year, Woodside works with Traditional Custodians undertaking audits of heritage sites around the perimeter of the Karratha Gas Plant and Pluto LNG Parks. These audits arose from our long-standing consultation with Traditional Custodians regarding Cultural Heritage Management at our onshore facilities.

Both assets operate near National Heritage and Tentative World Heritage listed sites, including Murujuga's petroglyphs (rock art).

The primary purpose of the audits is to monitor the condition of culturally and spiritually significant sites and invite recommendations if the potential for impacts are detected.

"The audits are also an opportunity for Traditional Custodians to connect to areas of a cultural landscape that stretch back tens of thousands of years, and for the community's reassurance that cultural heritage is being managed appropriately on Woodside's leases," said Daniel Thomas, Manager Global Heritage and Human Rights.

The most recent heritage audits were carried out last year over a two week period.

"The feedback from Traditional Custodians was that the sites inspected remain in generally good condition," said Daniel.

"Traditional Custodians did identify some areas in need of additional vegetation management, and that vegetation management was supervised by elders and Indigenous community members in November last year. Another issue identified was rubbish washing up on shore which is also now managed."

Learn more about Woodside's cultural heritage management **here**

A soaring community experience

Western Australia's Pilbara shorebirds undertake a remarkable migration journey of over 10,000 kilometres to breed in the northern hemisphere, sustained by the region's marine cuisine.

Around 70 participants recently attended an annual community event at Hearson's Cove featuring shorebird watching and information sessions, and a tour of the incredible petroglyphs at Nganjarli (Deep George).

The event aims to raise awareness about the significance of the Pilbara coast for shorebirds and the rich cultural heritage of the area. Participants gain insights into the birds' behaviour and contribute to conservation efforts within the community.

Woodside Energy thanks the collective support from co-hosts, Pilbara Ports, Rio Tinto, Yara Pilbara and the DBCA Parks and Wildlife Service who partnered with the Murujuga Aboriginal Corporation Rangers and Birdlife Australia.

Image credit: Murujuga Aboriginal Corporation

To stay updated, subscribe for future editions at **woodside.com/what-we-do/consultation-activities**

Community spotlight

Impact felt locally in Karratha

Impact Digi is a Pilbara-based Indigenous owned and operated marketing agency with close to a decade of experience working with Woodside Energy.

A full-service marketing agency, Impact Digi has built relationships with government, industry, Indigenous organisations and businesses of all sizes helping them to build brands and reach stakeholders.

"The past couple of years have been extra rewarding as our reputation has grown within Woodside and we're getting to work with team members from other areas of their business," said Impact Digi Managing Director, Tamara Bin Amat.

Starting off by offering photography services when they first began, Impact Digi has transformed over time with a growing team, refined services and an expanded reach.

"Looking back, one of my favourite moments was when local Asset Manager for the Karratha Gas Plant, Breyden Lonnie presented our first ever award for Best Aboriginal Business at the 2015 Karratha and Districts Chamber of Commerce and Industry (KDCCI) Business Excellence Awards," said Tamara.

With Impact Digi recently winning the Business Excellence Award for Best Small Business at the 2024 Awards, among many other accolades, the recognition continues.

Tamara and her team understand the importance of supporting local and contributing to their community.

"Working with Woodside has not only boosted our business but also our reputation, opening doors to new opportunities across the state," said Tamara.

Continue reading about Impact Digi's experience working with Woodside **here**

Managing Director, Tamara Bin Amat left with her team.

Community partners playing a friendly game of lawn bowls during the sundowner event

Woodsiders ready to chat at Ross St Mall

Talking Point

Engaging Exmouth

Did you know that Woodside has been engaging with the Exmouth community for over 15 years? Woodside operates two Floating Production Storage and Offtake (FPSO) facilities around 50 kilometres off the coast of Exmouth, the Ngujima-Yin FPSO and the Pyrenees FPSO.

In November 2024, Woodside wrapped up the year with a series of engagements with stakeholders, community partners and the Exmouth community.

This included a Community Liaison Group meeting which is a forum co-hosted by Woodside and Santos. The joint approach stemmed from community feedback received around a decade ago, and the collaborative format has been retained to this day. The group meets three times a year and both Woodside and Santos provide updates on activities and community initiatives, inviting members to raise queries and provide feedback.

Woodside recently presented on our climate strategy and invited research partner, CSIRO to share updates on Ningaloo Outlook, a program furthering knowledge on the deep and shallow reefs of Ningaloo Coast World Heritage Area.

Woodside and Santos thanked community partners during a sundowner event at the Exmouth Bowling Club. This was a great opportunity to celebrate shared commitment to positive community outcomes over a friendly game of lawn bowls.

The following day, Woodside held a pop-up Environment Plan consultation stand at Ross Street Mall where locals (including the iconic Exmouth emus) and visitors dropped by to find out more about our activities and proposed plans.

Woodside's active engagement in community illustrates our commitment to open and transparent consultation.

Read about the Woodside supported programs focusing on the unique ecosystem along the Ningaloo Reef and Exmouth Gulf **here**

Join the conversation at **woodside.com/what-we-do/consultation-activities**

Community conversations

Open and transparent consultation is important to Woodside. Consulting firm GHD was recently in Karratha to speak with community stakeholders as part of Woodside's socio-economic impact assessments for communities that host Woodside's workforce and assets.

These insights assist Woodside to identify, assess, and manage social impacts and benefits that may arise from different operational and project scenarios in Karratha and aims to uncover new ways for Woodside to partner with the community in the future.

This informs Woodside's future strategies for impact management, community engagement, local content and social investment.

Further consultation will be taking place in April 2025.

If you're interested in what Woodside has planned on land and sea, come and chat to our friendly team and follow the Woodside North West Facebook page for updates, including our Karratha Community Update.

Stay up to date on our continued contribution to the community we call home.

Search on Facebook or click **here**

Woodside North West

GHD conducting on the ground consultation with key stakeholder, Yurra

Consultation opportunities

Environment Plan	Activity Type	Location	Consultation Dates
Goodwyn-Alpha Geophysical and Geotechnical Revision	Survey	~140 km north-west of Dampier	April 2025
Okha Floating Production Storage and Offloading (FPSO) Facility Operations	Operations	~119 km north-west of Dampier	April 2025
NWS Trunkline State Operations	Operations	~11 km northeast of Dampier	June 2025
Pluto Trunkline State Operations	Operations	~8 km northeast of Dampier	June 2025
NWS Phase 1 P&A and TPA03 Well Intervention	Decommissioning and Project	~125 km north of Dampier and 138 km north-west of Dampier	Previous consultation in September – October 2024
Angel Subsea Infrastructure Removal	Decommissioning	~125km north of Dampier	Previous consultation in September – October 2024

Progress snapshot

Environment Plan	Activity Type	Date Accepted	Status
Minerva Plug and Abandonment	Decommissioning	9 January 2025	In scheduling
Macedon Operations	Operations	24 December 2024	In progress
Ngujima-Yin Floating Production Storage and Offtake (FPSO) Operations	Operations	19 December 2024	In progress
Minverva Decommissioning and Field Management (State)	Decommissioning	27 November 2024	In progress
Minerva Decommissioning and Field Management (Commonwealth)	Decommissioning	14 October 2024	In progress
NWS and Julimar Exploration Wellhead Decommissioning	Decommissioning	3 July 2024	In progress
Angel Operations (Lambert West Drilling)	Operations / Project	25 June 2024	In scheduling
Julimar Development Phase 3 Drilling and Subsea Installation	Project	10 June 2024	In scheduling
Goodwyn Alpha Geophysical and Geotechnical Surveys Environment Plan	Project	30 May 2024	In progress
Stybarrow Decommissioning and Field Management / End State	Decommissioning	23 May 2024	In progress
Macedon Operations (State)	Operations	24 April 2024	In progress
Griffin Field Decommissioning (End State)	Decommissioning	1 March 2024	In progress
Stybarrow Decommissioning and Field Management	Decommissioning	8 January 2024	In progress

You can view Commonwealth Environment Plans for approved activities and operations by visiting:
info.nopsema.gov.au/home/approved_projects_and_activities

Environment planning continues to move forward

To undertake offshore petroleum or greenhouse gas activities, a titleholder is required to have an accepted Environment Plan, also referred to as an EP, in place.

In accordance with the objectives of the government regulations, the main purpose of an EP is to demonstrate two things. The first is that potential environmental impacts and risks from activities are identified and appropriate management and mitigation controls are implemented to a level that is 'as low as reasonably practicable' (ALARP) and acceptable.

The second ensures activities are carried out in a manner consistent with the principles of ecologically sustainable development set out in the *Environment Protection and Biodiversity Conservation Act 1999*.

It takes extensive work and time to develop an EP. A staged approach includes early planning of the proposed activity, defining the existing environment, consideration of potential impacts and risks to the environment, and identifying appropriate mitigation and control measures to manage risks to ALARP and an acceptable level.

Woodside Environment Plan Delivery Team Lead, Tim Mander, came into his role in 2023 following a number of legal challenges on the consultation processes under the Offshore Environment Regulations.

"Coming into the role was an interesting and challenging time. We navigated our way through this and in 2024, 12 Environment Plans were accepted with activities spanning ongoing operations, decommissioning, drilling, surveys, and installation of subsea infrastructure on the seafloor," Tim said.

"This year again, we have a number of Environment Plans kicking off across a range of different activities. We'll continue to focus on how we improve what we do to ensure our processes and management measures are appropriate to the nature and scale of these activities."

Environment Plans are required for both State and Commonwealth waters, with the National Offshore Petroleum Safety and Environmental Management (NOPSEMA) assessing and accepting Commonwealth EPs and the Department of Energy, Mines, Industry Regulation and Safety assessing and approving State EPs.

Woodside's Commonwealth EPs, currently under assessment and EPs that have been accepted can be viewed on NOPSEMA's website.

Several of the Scarborough Energy Project EPs were accepted in late 2023, including trunkline installation, with the work completed in October 2024

Upcoming engagement opportunities

Roebourne

Monthly Community Luncheon
- 26 March 2025, 11.00 am – 2.00 pm

Woodside Office, 39 Roe Street, Roebourne, WA, 6718

Dampier

Dampier Beachside Markets
- 6 April 2025, 9.00 am – 12 noon
- 4 May 2025, 9.00 am – 12 noon

Hampton Oval, Dampier, WA, 6713

Have your say

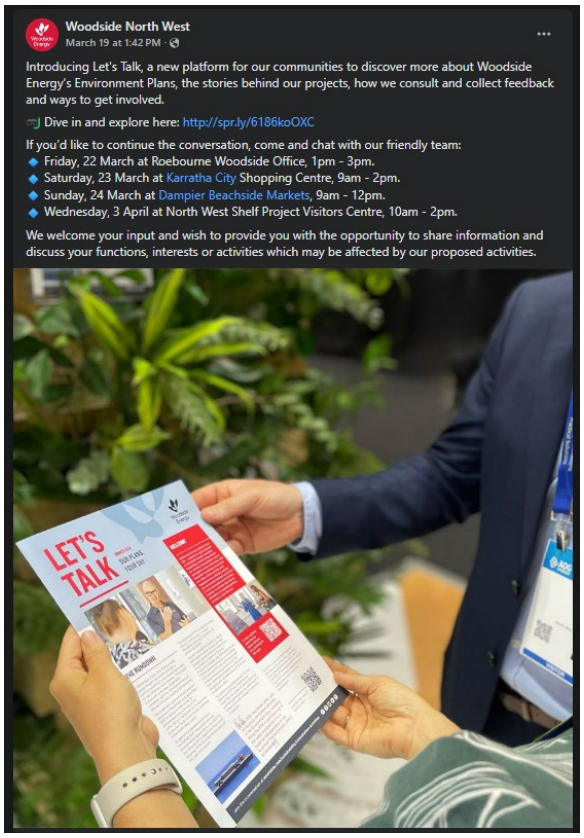
Woodside consults relevant persons while preparing our Environment Plans to notify them, obtain their input and to assist Woodside to confirm current measures or identify additional measures, if any, that may be taken to lessen or avoid potential adverse impacts of the proposed activity on the environment.

We welcome your input so please contact us if you'd like to discuss your functions, interests or activities which may be affected by our proposed activities.

You can access our consultation information, provide feedback and subscribe for updates by cicking **here**

Join the conversation at **woodside.com/what-we-do/consultation-activities**

Social media campaign, 19–30 March 2025



Community spotlight

Impact felt locally in Karratha

Impact Digi is a Pilbara-based Indigenous owned and operated marketing agency with close to a decade of experience working with Woodside Energy.

A full-service marketing agency, Impact Digi has built relationships with government, industry, Indigenous organisations and businesses of all sizes helping them to build brands and reach stakeholders.

"The past couple of years have been extra rewarding as our reputation has grown within Woodside and we're getting to work with team members from other areas of their business," said Impact Digi Managing Director, Tamara Bin Amat.

Starting off by offering photography services when they first began, Impact Digi has transformed over time with a growing team, refined services and an expanded reach.

"Looking back, one of my favourite moments was when local Asset Manager for the Karratha Gas Plant, Breyden Lonnie presented our first ever award for Best Aboriginal Business at the 2015 Karratha and Districts Chamber of Commerce and Industry (KDCCI) Business Excellence Awards," said Tamara.

With Impact Digi recently winning the Business Excellence Award for Best Small Business at the 2024 Awards, among many other accolades, the recognition continues.

Tamara and her team understand the importance of supporting local and contributing to their community.

"Working with Woodside has not only boosted our business but also our reputation, opening doors to new opportunities across the state," said Tamara.

Continue reading about Impact Digi's experience working with Woodside **here**

Managing Director, Tamara Bin Amat left with her team.

Community partners playing a friendly game of lawn bowls during the sundowner event

Woodsiders ready to chat at Ross St Mall

Talking Point

Engaging Exmouth

Did you know that Woodside has been engaging with the Exmouth community for over 15 years? Woodside operates two Floating Production Storage and Offtake (FPSO) facilities around 50 kilometres off the coast of Exmouth, the Ngujima-Yin FPSO and the Pyrenees FPSO.

In November 2024, Woodside wrapped up the year with a series of engagements with stakeholders, community partners and the Exmouth community.

This included a Community Liaison Group meeting which is a forum co-hosted by Woodside and Santos. The joint approach stemmed from community feedback received around a decade ago, and the collaborative format has been retained to this day. The group meets three times a year and both Woodside and Santos provide updates on activities and community initiatives, inviting members to raise queries and provide feedback.

Woodside recently presented on our climate strategy and invited research partner, CSIRO to share updates on Ningaloo Outlook, a program furthering knowledge on the deep and shallow reefs of Ningaloo Coast World Heritage Area.

Woodside and Santos thanked community partners during a sundowner event at the Exmouth Bowling Club. This was a great opportunity to celebrate shared commitment to positive community outcomes over a friendly game of lawn bowls.

The following day, Woodside held a pop-up Environment Plan consultation stand at Ross Street Mall where locals (including the iconic Exmouth emus) and visitors dropped by to find out more about our activities and proposed plans.

Woodside's active engagement in community illustrates our commitment to open and transparent consultation.

Read about the Woodside supported programs focusing on the unique ecosystem along the Ningaloo Reef and Exmouth Gulf **here**

Join the conversation at **woodside.com/what-we-do/consultation-activities**

APPENDIX G OIL SPILL PREPAREDNESS AND RESPONSE MITIGATION ASSESSMENT

Woodside Energy

Oil Spill Preparedness and Response Mitigation Assessment for Okha Floating Production Storage and Offloading Facility Operations Environment Plan

Corporate HSE

Hydrocarbon Spill Preparedness

July 2025
Revision 1a

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EXECUTIVE SUMMARY

Woodside Energy Ltd (Woodside) has developed its oil spill preparedness and response position for the Okha FPSO Facility Operations, hereafter known as the Petroleum Activities Program (PAP).

This document demonstrates that the risks and impacts from an unplanned hydrocarbon release, and the associated response operations, are controlled to As Low as Reasonably Practicable (ALARP) and an acceptable level. It achieves this by evaluating response options to address the potential environmental impacts resulting from an unplanned loss of hydrocarbon containment associated with the PAP described in the Environment Plan (EP). This document then outlines Woodside's decisions and techniques for responding to a hydrocarbon release event and the process for determining its level of hydrocarbon spill preparedness.

A summary of the key facts and references to additional detail within this document are presented below.

Table 0-1: Summary of the key details for assessment

Key details of assessment	Summary	Reference to additional detail
Worst Case Credible Scenario	**Credible Scenario MEE-01: Subsea hydrocarbon release caused by a well loss of containment** 83,212 m^3 over 77 days of Cossack Light Crude. 15.2% residual component of 12,810 m^3	Section 2.2
	Credible Scenario MEE-05: Surface hydrocarbon release caused by a vessel cargo tank rupture Instantaneous release of 30,302 m^3 of Cossack Light Crude. 15.2 % residual component of 4,606 m^3	
Hydrocarbon Properties	**Cossack Light Crude (API 48.1)** Contains a high proportion (~15.2% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. The unweathered mixture has a dynamic viscosity of 1.40 cP. The pour point of the whole oil (-24 °C) ensures that it will remain in a liquid state over the annual temperature range observed on the North West Shelf. The mixture is composed of hydrocarbons that have a wide range of boiling points and volatilities at atmospheric temperatures, and which will begin to evaporate at different rates on exposure to the atmosphere. Evaporation rates will increase with temperature, but in general about 52.2% of the oil mass should evaporate within the first 12 hours (BP < 180°C); a further 20.5% should evaporate within the first 24 hours (180 °C < BP < 265°C); and a further 12.0% should evaporate over several days (265 °C < BP < 380 °C).	Section 6.7.2.1.1 of the EP Appendix A of the First Strike Plan
Modelling Results	**Stochastic modelling** A quantitative, stochastic assessment has been undertaken for credible spill scenarios to help assess the environmental risk of a hydrocarbon spill. A total of 100 replicate simulations were completed for the scenarios to test for trends and variations in the trajectory and weathering of the spilled oil, with an even number of replicates completed using samples of metocean data that commenced within each calendar quarter (25 simulations per quarter).	Section 2.3.4

<table>
<tr><td></td><td colspan="3">Deterministic modelling
Deterministic modelling was then undertaken for scenarios MEE-01 and MEE-05 as the worst-case credible scenarios (WCCS) to establish the following for response planning purposes:
• Minimum time to commencement of oil accumulation at any shoreline receptor (at a threshold of 100 g/m^2)
• Maximum cumulative oil volume accumulated at any individual shoreline receptor (at concentrations in excess of 100 g/m^2)
• Maximum cumulative oil volume accumulated across all shoreline receptors (at concentrations in excess of 100 g/m^2)</td><td></td></tr>
<tr><td></td><td></td><td>MEE-01: Subsurface hydrocarbon release 83,212 m^3 of Cossack Light Crude over 77 days</td><td>MEE-05: Surface hydrocarbon release 30,302 m^3 of Cossack Light Crude over 24 hours</td><td></td></tr>
<tr><td></td><td>Minimum time to floating hydrocarbon contact with the offshore edge(s) of any shoreline receptor polygon (at a concentration of 10 g/m^2)</td><td>No floating hydrocarbon at response threshold</td><td>Replicate No. 2, Q2
7.7 days (Montebello Islands and State Marine Park</td><td></td></tr>
<tr><td></td><td>Minimum time to shoreline contact (above 100 g/m^2)</td><td>Replicate No. Q4_015
19.7 days at Muiron Islands including MMA and WHA (9 m^3)</td><td>Replicate No. 24, Q2
7.2 days at Barrow Island (42 m^3)</td><td></td></tr>
<tr><td></td><td>Largest volume ashore at any single Response Protection Area (RPA) (above 100 g/m^2)</td><td>Replicate No. Q4_003
34 m^3 at Muiron Islands including MMA and WHA (46.8 days)</td><td>Replicate No. 32, Q2
110 m^3 at Montebello Islands and State Marine Park (11.1 days)</td><td></td></tr>
<tr><td></td><td>Largest total shoreline accumulation (above 100 g/m^2) all shorelines</td><td>Replicate No. Q2_002
21 m^3 at Southern Pilbara Islands including Peak Island (45.6 days)</td><td>Replicate No. 32, Q2
110 m^3 at Montebello Islands and State Marine Park (11.1 days)</td><td></td></tr>
<tr><td></td><td>Minimum time to entrained/ dissolved hydrocarbon contact with the offshore edges of any receptor polygon (at a threshold of 100 ppb)</td><td>4.25 days at Rankin Bank</td><td>1.8 days at Glomar Shoal</td><td></td></tr>
<tr><td>Net Environmental Benefit Analysis</td><td colspan="3">Monitor and evaluate, source control, surface dispersant application, containment and recovery, protection and deflection, shoreline clean-up, oiled wildlife response, are all identified as potentially having a net environmental benefit (dependent on the actual spill scenario) and carried forward for further assessment.</td><td>Section 4</td></tr>
<tr><td>ALARP evaluation of selected response techniques</td><td colspan="3">The evaluation of the selected response techniques shows the proposed controls reduced the risk to an ALARP and aacceptable level for the risk presented in Section 2, without the implementation of considered additional, alternative or improved control measures.</td><td>Section 7</td></tr>
</table>

1 INTRODUCTION

1.1 Overview

Woodside Energy Ltd (Woodside) has developed its oil spill preparedness and response position for the Okha Floating Production Storage and Offloading Facility (FPSO) Operations, hereafter known as the PAP. This document outlines Woodside's decisions and techniques for responding to a hydrocarbon loss of containment event and the process for determining its level of hydrocarbon spill preparedness.

1.2 Purpose

This document, together with the documents listed below, meet the requirements of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023(Environment Regulations) relating to hydrocarbon spill response arrangements.

- The Okha FPSO Facility Operations Environment Plan (EP)
- Hydrocarbon Spill Australia Regulatory Framework
- The Okha FPSO Facility Operations Oil Pollution Emergency Plan (OPEP) including
  - First Strike Plan (FSP)
  - Operational and Scientific Monitoring Bridging Implementation Plan (OSM BIP)
  - Relevant Operations Plans
  - Relevant Tactical Response Plans (TRPs)
  - Relevant Supporting Plans
  - Data Directory.

1.3 Scope

This document demonstrates that the risks and impacts from an unplanned hydrocarbon release, and the associated response operations, are controlled to ALARP and an acceptable level. It achieves this by evaluating response options to address the potential environmental risks and impacts resulting from an unplanned loss of hydrocarbon containment associated with the PAP described in the EP. This document then outlines Woodside's decisions and techniques for responding to a hydrocarbon release event and the process for determining its level of hydrocarbon spill preparedness. It should be read in conjunction with the documents listed in Table 1-1. The location of the PAP is shown in Figure 3.1 of the EP.

1.4 Oil spill response document overview

The documents outlined in Table 1-1 and Figure 1-1 are collectively used to manage the preparedness and response for a hydrocarbon release.

The Oil Pollution First Strike Plan (FSP) contains a pre-operational Net Environmental Benefit Analysis (NEBA) summary, outlining the selected response techniques for this PAP. Relevant Operational Plans to be initiated for associated response techniques are identified in the FSP and relevant forms to initiate a response are appended to the FSP.

The process to develop an Incident Action Plan (IAP) begins once the oil pollution FSP is underway. The IAP includes inputs from the monitor and evaluate operations and the operational NEBA (Section 4). Planning, coordination and resource management are initiated by the Corporate Incident Management Team (CIMT). In some instances, technical specialists may be utilised to provide expert advice. The planning may also involve liaison officers from supporting government agencies.

During each operational period, field reports are continually reviewed to evaluate the effectiveness of response operations. In addition, the operational NEBA is continually reviewed and updated to confirm the response techniques implemented continue to result in a net environmental benefit (Section 4).

The response will continue as described in Section 5 until the response termination criteria have been met.

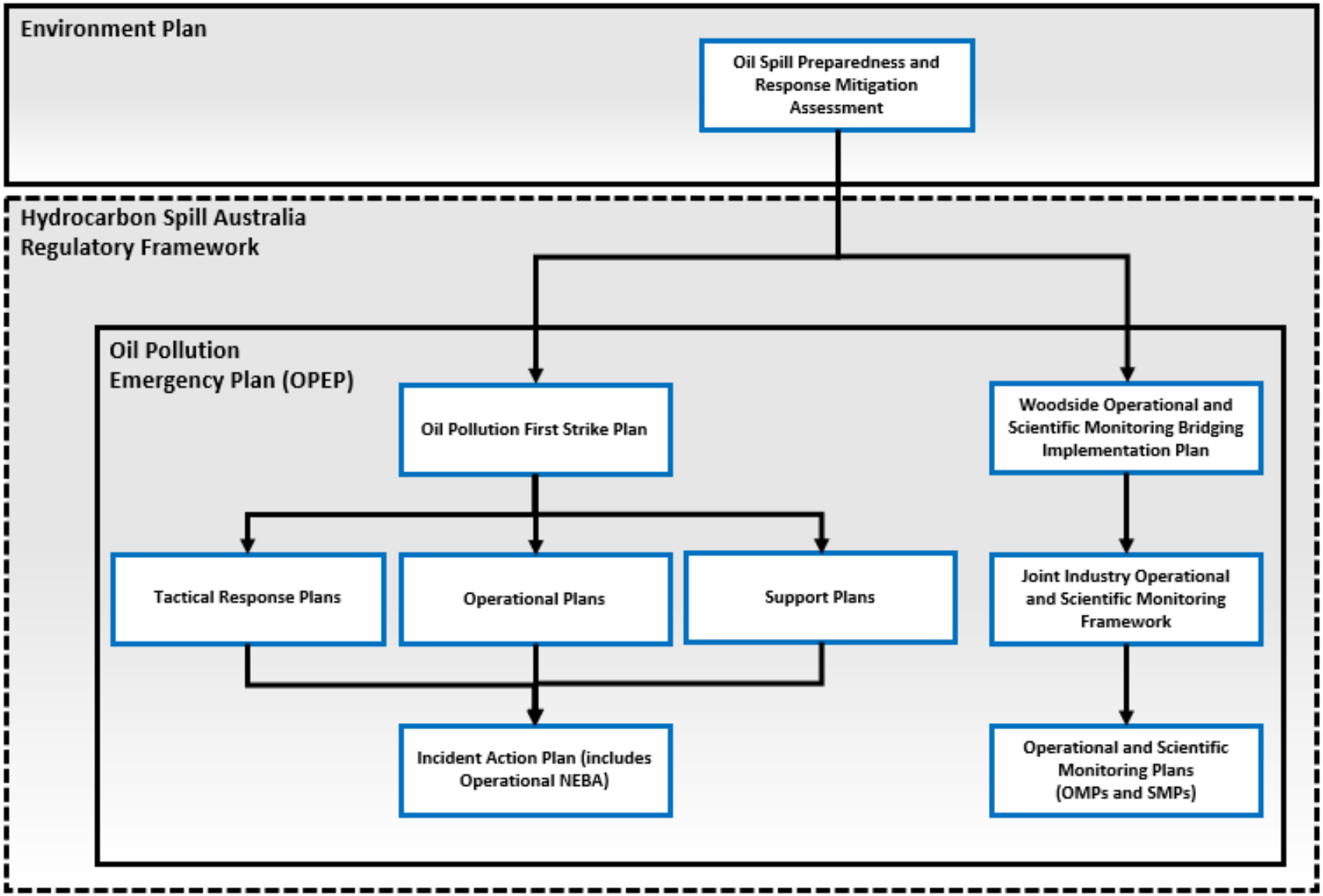

Figure 1-1: Woodside hydrocarbon spill document structure

Table 1-1: Hydrocarbon Spill preparedness and response – document references

Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
Okha FPSO Facility Operations Environment Plan (EP)	Demonstrates that potential adverse impacts on the environment associated with the Okha FPSO Facility Operations (during both routine and non-routine operations) are mitigated and managed to As Low As Reasonably Practicable (ALARP) and will be of an acceptable level.	NOPSEMA Woodside internal	EP Section 6 (Identification and evaluation of environmental risks and impacts, including credible spill scenarios) EP Section 6 (Performance outcomes, standards and measurement criteria) EP Section 7 (Implementation strategy – including emergency preparedness and response, and Reporting and compliance)	
Hydrocarbon Spill Australia Regulatory Framework	Describes the arrangements and processes adopted by Woodside when responding to a hydrocarbon spill from a petroleum activity.	Regulatory agencies Woodside internal	All	
Oil Spill Preparedness and Response Mitigation Assessment for the Okha FPSO Facility Operations (this document)	Evaluates response options to address the potential environmental impacts resulting from an unplanned loss of hydrocarbon containment associated with the PAP described in the EP.	Regulatory agencies Corporate Incident Management Team (CIMT): Control function in an ongoing spill response for activity-specific response information.	All Performance outcomes, standards and measurement criteria related to hydrocarbon spill preparedness and response are included in this document.	
Okha FPSO Facility Operations Oil Pollution First Strike Plan	Facility specific document providing details and tasks required to mobilise a first strike response. Primarily applied to the first 24 hours of a response until a full Incident Action Plan (IAP) specific to the event is developed. Oil Pollution First Strike Plans are intended to be the first document used to provide immediate	Site-based IMT for initial response, activation and notification. CIMT for initial response, activation and notification. CIMT: Control function in an ongoing spill response for activity-specific response information.	Initial notifications and reporting required within the first 24 hours of a spill event. Relevant spill response options that could be initiated for mobilisation in the event of a spill. Recommended pre-planned tactics. Details and forms for use in immediate response. Activation process for oil spill trajectory	

Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
	guidance to the responding Incident Management Team (IMT).		modelling, aerial surveillance and oil spill tracking buoy details.	
Operational Plans	Lists the actions required to activate, mobilise and deploy personnel and resources to commence response operations. Includes details on access to equipment and personnel (available immediately) and steps to mobilise additional resources depending on the nature and scale of a release. Relevant operational plans will be initially selected based on the Oil Pollution First Strike Plan; additional operational plans will be activated depending on the nature and scale of the release.	CIMT: Operations and Logistics Sections for first strike activities. CIMT: Planning Section to help inform the IAP on resources available.	Locations from where resources may be mobilised. How resources will be mobilised. Details of where resources may be mobilised to and what facilities are required once the resources arrive. Details on how to implement resources to undertake a response.	Operational Monitoring Operational Plan Source Control Emergency Response Planning Guideline Surface Dispersants Containment and Recovery Shoreline Protection and Deflection Shoreline Clean-up Oiled Wildlife
Operational and Scientific Monitoring (OSM) Bridging Implementation Plan	Describes a program of monitoring oil pollution that will be adopted in the event of a hydrocarbon spill incident (Level 2–3) to marine waters. It is aligned to the Joint Industry Operational and Scientific Monitoring Framework (APPEA, 2021) and describes how this Framework applies to Woodside's activities and spill risks in Australian waters.	Site-based IMT for initial activation and notification. OSM Service Providers Regulatory agencies	Mobilisation and notification process for OSM, including activation of OSM Service Providers Information on first-strike scientific monitoring priorities OSM arrangements and capability Permitting and access requirements for OSM	

Document	Document overview	Stakeholders	Relevant information	Document subsections (if applicable)
Tactical Response Plans	Provides options for response techniques in selected RPAs. Provides site, access and deployment information to support a response at the location.	CIMT: Planning Section to help develop IAPs, and Logistics Section to assist with determining resources required.	Indicative response techniques. Access requirements and/or permissions. Relevant information for undertaking a response at that site. Where applicable, may include equipment deployment locations and site layouts.	For full list of relevant Tactical Plans for the Okha FPSO Facility Operations oil spill response, refer to: Tactical Response Plans
Support Plans	Support Plans detail Woodside's approach to resourcing and the provision of services during a hydrocarbon spill response.	CIMT: Operations, Logistics and Planning Sections.	Technique for mobilising and managing additional resources outside of Woodside's immediate preparedness arrangements.	Logistics Support Plan Aviation Support Plan Marine Support Plan Waste Management Plan – Australia Health and Safety Support Plan Hydrocarbon Spill Responder Health Monitoring Guidelines People and Global Capability (Surge Labour Requirements) Support Plan Stakeholder Engagement Support Plan Guidance for Hydrocarbon Spill Claims Management

2 RESPONSE PLANNING PROCESS

This document details Woodside's process for identifying potential response options for the hydrocarbon release scenarios, identified in the EP. Figure 2-1 outlines the interaction between Woodside's response, planning, preparedness and selection process.

This structure has been used because it shows how the planning and preparedness activities inform a response and provides indicative guidance on what activities would be undertaken, in sequential order, if a real event were to occur. The process also evaluates alternative, additional and/or improved control measures specific to the PAP.

The Okha FPSO Facility Operations First Strike Plan (FSP) then summarises the outcome of the response planning process and provides initial response guidance and a summary of ongoing response activities if an incident were to occur.

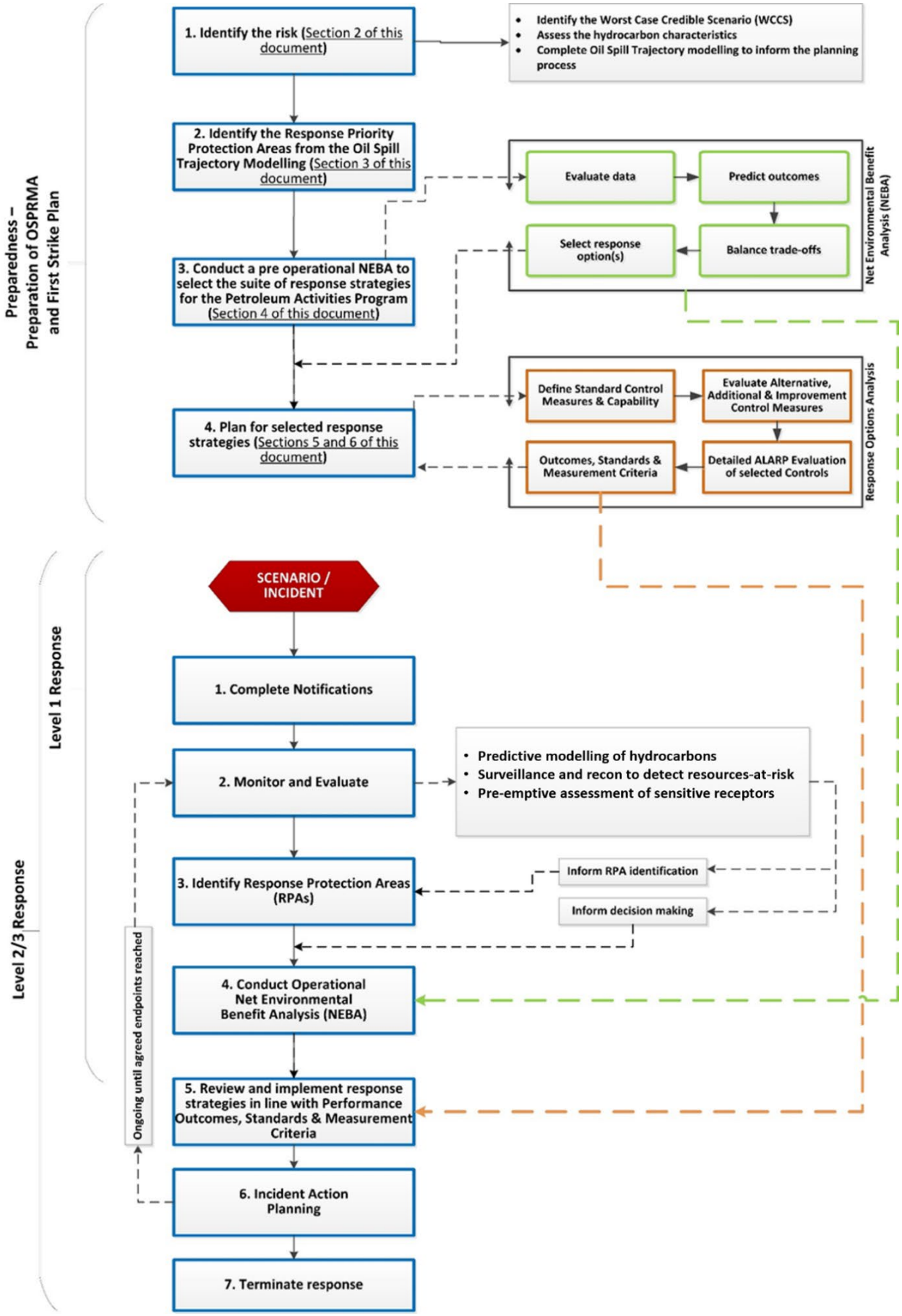

Figure 2-1: Response planning and selection process

2.1 Response planning process outline

This document is expanded below to provide additional context on the key steps in determining capability, evaluating ALARP and hydrocarbon spill response requirements.

Section 1. INTRODUCTION

Section 2. RESPONSE PLANNING PROCESS

- identification of worst-case credible scenario(s) (WCCS)
- spill modelling for WCCS.

Section 3. IDENTIFY RESPONSE PROTECTION AREAS (RPAs)

- areas predicted to be contacted at concentration >100 g/m^2.

Section 4. NET ENVIRONMENTAL BENEFIT ANALYSIS (NEBA)

- pre-operational NEBA (during planning/ALARP evaluation): this must be reviewed during the initial response to an incident to confirm its accuracy
- selected response techniques prioritised and carried forward for ALARP assessment.

Section 5. HYDROCARBON SPILL ALARP PROCESS

- determines the response need based on predicted consequence parameters.
- details the environmental performance of the selected response options based on need.
- sets the environmental performance outcomes, environmental performance standards and measurement criteria.

Section 6. ALARP EVALUATION

- evaluates alternative, additional, and improved options for each response technique to demonstrate the risk has been reduced to ALARP.
- provides a detailed ALARP assessment of selected control measure options against:
  - predicted cost associated with implementing the option
  - predicted change to environmental benefit
  - predicted effectiveness / feasibility of the control measure.

Section 7. ENVIRONMENTAL RISK ASSESSMENT OF SELECTED RESPONSE TECHNIQUES

- evaluation of impacts and risks from implementing selected response options.

Section 8. ALARP CONCLUSION

Section 9. ACCEPTABILITY CONCLUSION

2.1.1 Response Planning Assumptions

Figure 2-2 illustrates the initial steps of a response to an oil spill event and, where available, the indicative timing. For the latter stages, the timing will be specific to the selective response option.

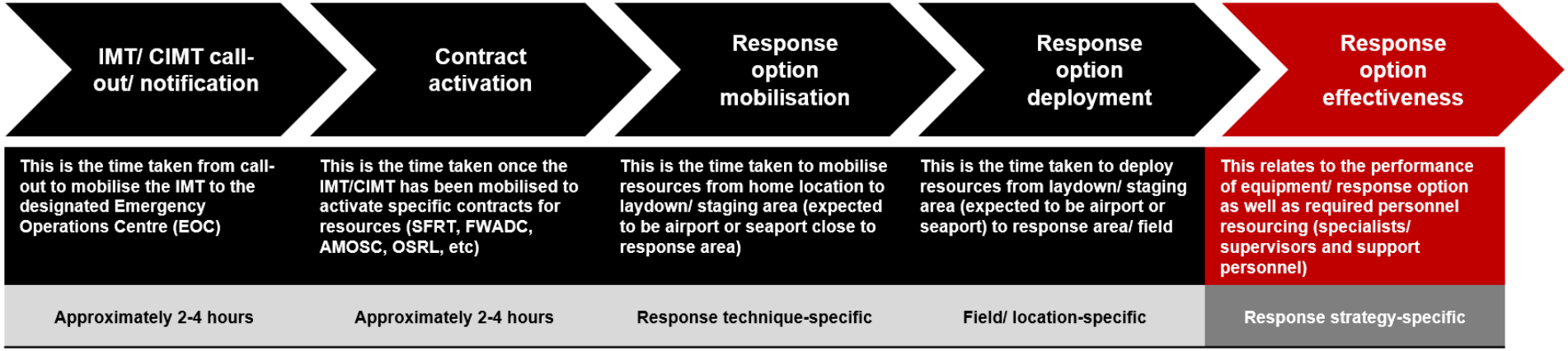

Figure 2-2: Response planning assumption – timing, resourcing and effectiveness

2.2 Environment plan risk assessment (credible spill scenarios)

Potential hydrocarbon release scenarios from the PAP have been identified during the risk assessment process (Section 6 of the EP). Further descriptions of risk, impacts and mitigation measures (which are not related to hydrocarbon preparedness and response) are provided in Section 6 of the EP. Five unplanned events or credible spill scenarios for the PAP have been selected as representative across types, sources and incident/response levels, up to and including the WCCS.

Table 2-1 presents the credible scenarios for the PAP. The WCCS for the activity is then used for response planning purposes, as all other scenarios are of a lesser scale and extent. By demonstrating capability to manage the response to the WCCS, Woodside assumes other scenarios that are smaller in nature and scale can also be managed by the same capability. Response performance measures have been defined based on a response to the WCCS.

A short-term (24-hour) uncontrolled release at the surface caused by an FPSO cargo tank rupture (MEE-05) is considered the worst case for responding to floating hydrocarbons and likelihood of shoreline impacts. Due to this scenario's rapid release at the surface this scenario has been used for all response planning purposes with the exception of source control. MEE-01 is considered to be the WCCS when responding to a large-scale subsea release and has been used to scale the source control response, including relief well drilling.

The selection of scenarios for OSM planning purposes are discussed in ANNEX C: OSM Activity Specific Requirement and Verification of OSM-BIP Adequacy.

Table 2-1: Petroleum Activities Program credible spill scenarios

Credible Spill Scenarios[1]	Scenario selected for planning purposes	Scenario description	Maximum credible volume released (liquid m^3)[1]	Incident level	Hydrocarbon type	Residual proportion	Residual volume (m^3)
MEE-01 (WCCS)	Yes	Subsea hydrocarbon release caused by loss of containment after a loss of well control	83,212 m^3 (over 77 days)	3	Cossack Light Crude	15.2%	12,648 m^3 (164 m^3 / day)
MEE-02	No	Subsurface hydrocarbon release caused by flowline or riser rupture	773 m^3 (instantaneous)	2	Cossack Light Crude	15.2%	117 m^3
MEE-03	No	Topsides loss of containment	113.5 m^3 (<10 minutes)	2	Cossack Light Crude	15.2%	17.3 m^3
MEE-04	No	Loss of containment during offtake	724 m^3 (instantaneous)	2	Cossack Light Crude	15.2%	110 m^3
MEE-05	Yes	Cargo tank loss of containment	30,302 m^3 (over 24 hours)	3	Cossack Light Crude	15.2%	4,606 m^3 (192 m^3 / hour)
MEE-06	No	Loss of structural integrity	*Scenario covered by MEE-01 – MEE-05*				
MEE-07	No	Loss of marine vessel separation	105 m^3 (instantaneous)	2	Marine diesel	5%	5.25 m^3
MEE-08	No	Loss of control of suspended load	*Scenario covered by MEE-01 – MEE-05*				

[1] A full description of MEEs used in this document is included in EP Section 6.7

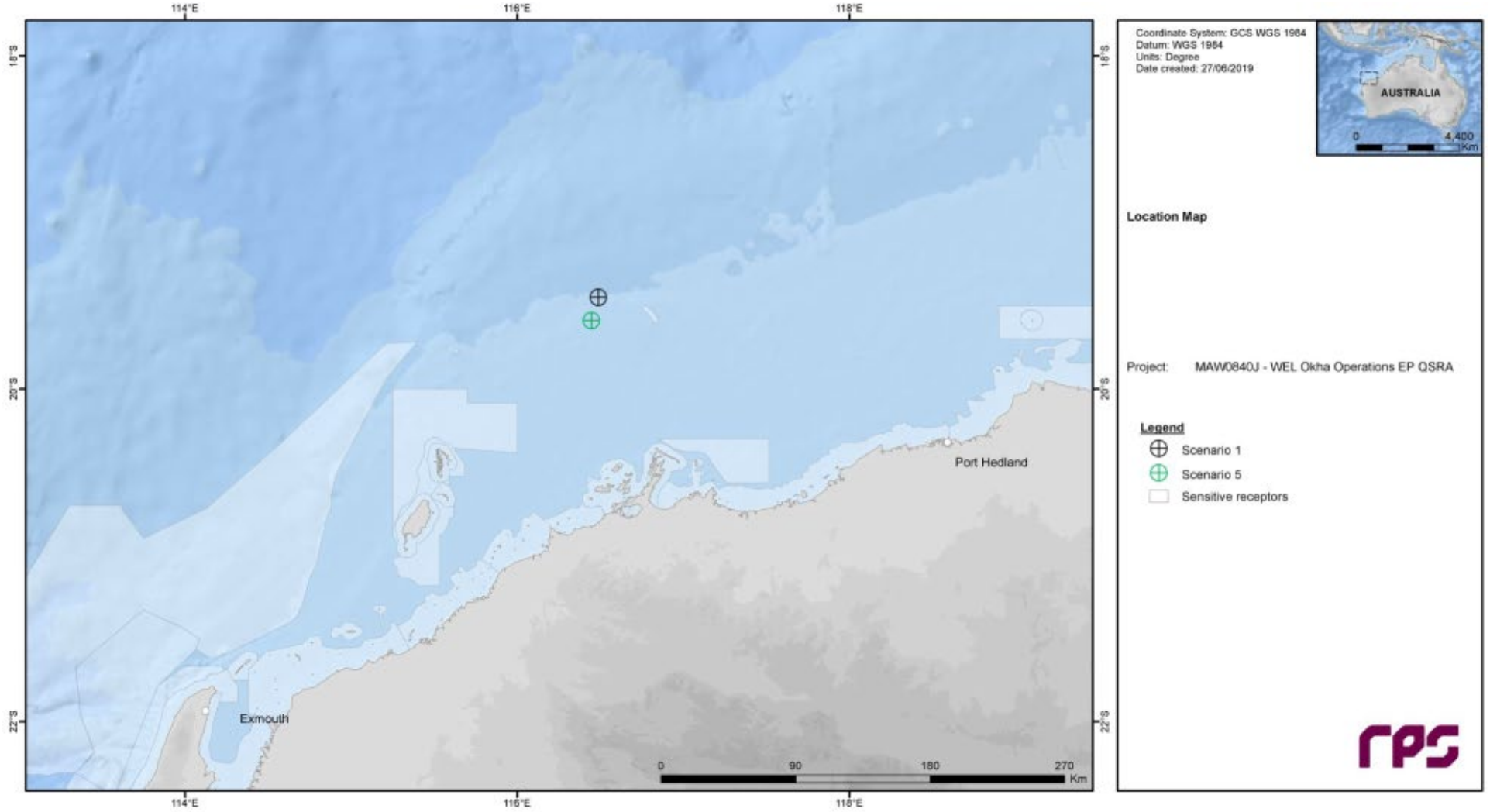

Figure 2-3: Location of MEE-01 ('Scenario 1') and MEE-05 ('Scenario 5')

2.2.1 Hydrocarbon characteristics

Hydrocarbon characteristics, including modelled weathering data and ecotoxicity, are included in Section 6.7.2.1of the EP.

Cossack Light Crude

Cossack Light Crude (API 48.1) contains 15.2% by mass of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds will persist in the marine environment.

The mixture is composed of hydrocarbons that have a wide range of boiling points and volatilities at atmospheric temperatures, and which will begin to evaporate at different rates on exposure to the atmosphere. Evaporation rates will increase with temperature, but in general about 52.2% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 20.5% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further 11.9% should evaporate over several days (265 °C < BP < 380 °C).

The whole oil has low asphaltene content (< 0.5%), indicating a low propensity for the mixture to take up water to form water-in-oil emulsion over the weathering cycle.

Soluble aromatic hydrocarbons contribute approximately 11.9% by mass of the whole oil. The fate of these compounds would vary depending upon the spill scenario. These compounds will evaporate rapidly from surface films as well as from droplets of crude that are entrained in the highly mixed surface layer (upper few metres), reducing the potential for dissolution into the water if the crude mixture is at the water surface or suspended in the upper metre of the water column. If the crude droplets were trapped in deeper density layers, a high rate of dissolution would occur.

2.3 Hydrocarbon spill modelling

Oil spill trajectory modelling (OSTM) tools are used for environmental impact assessment and during response planning to understand spatial scale and timeframes for response operations. Woodside recognises there is a degree of uncertainty related to the use of modelling data and has subsequently utilised conservative approaches to volumes, weathering, spatial areas, timing and response effectiveness to scale capability to need.

The Oil Spill Model and Response System (OILMAP) and Integrated Oil Spill Impact Model System (SIMAP) models are both used for stochastic and deterministic trajectory modelling. They have been developed over three decades of planning, exercises, actual responses, several peer reviews, and validation studies. OILMAP was originally derived from the United States Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Type A model (French et al. 1996), for assessing marine transport, biological impact and economic damage that was also used under the United States Oil Pollution Act 1990 Natural Resource Damage Assessment (NRDA) regulations. Notable spills where the model has been used and validated against actual field observations include, Exxon Valdez (French McCay 2004), North Cape Oil Spill (French McCay 2003), along with an assessment of 20 other spills (French McCay and Rowe, 2004). In addition, test spills designed to verify fate, weathering and movement algorithms have been conducted regularly and in a range of climate conditions (French and Rines 1997; French et al. 1997; Payne et al. 2007; French McCay et al. 2007).

Further to this, the algorithms have been updated using the latest findings from the Macondo/Deepwater Horizon well blowout in the Gulf of Mexico and validated according to the Deepwater Horizon (DWH) oil spill in support of the NRDA (Spaulding et al. 2015; French McCay et al. 2015, 2016). Finally, the OILMAP and SIMAP models have been used extensively in Australia to prosecute pollution offences, predict discharge locations and likely spill volumes based on weathering and surveillance observations, and has been used as expert witness evidence in Australian court proceedings, aiding the prosecution to determine spill quantum estimates.

2.3.1 Stochastic modelling

Quantitative, stochastic assessments have been undertaken for the credible spill scenarios (refer to Table 2-1) to help assess the environmental consequences of a hydrocarbon spill.

A total of 100 replicate simulations were completed for each of the scenarios to test for trends and variations in the trajectory and weathering of the spilled oil, with an even number of replicates completed using samples of metocean data that commenced within each calendar quarter (25 simulations per quarter). Further details relating to the assessments for the scenarios can be found in Section 6 of the EP.

2.3.1.1 Environmental impact thresholds – Environment that May Be Affected (EMBA) and hydrocarbon exposure

The outputs of the stochastic spill modelling are used to assess the potential environmental impact from the credible scenarios. The stochastic modelling results are used to delineate areas of the marine and shoreline environment that could be exposed to hydrocarbon levels exceeding environmental impact threshold concentrations. The summary of all the locations where hydrocarbon thresholds could be exceeded by any of the simulations modelled is defined as the EMBA and is discussed further in Section 6 of the EP. As the weathering of different fates of hydrocarbons (surface, entrained and dissolved) differs due to the influence of the metocean mechanism of transportation, a different EMBA is presented for each fate within the EP.

A conservative approach – adopting accepted accumulation thresholds for impacts on the marine environment – is used to define the EMBA. These hydrocarbon thresholds are presented in Table 2-2 below and described in Section 6 of the EP.

Table 2-2: Summary of thresholds applied to the stochastic hydrocarbon spill modelling to determine the EMBA and environmental impacts

Hydrocarbon	Surface hydrocarbon (g/m^2)	Dissolved hydrocarbon (ppb)	Entrained hydrocarbon (ppb)	Accumulated hydrocarbon (g/m^2)
Crude	10	50	100	100

2.3.2 Deterministic modelling

Woodside uses deterministic modelling results to evaluate risks and impacts and response capability requirements. These results are provided in both shapefile and data table format with each row of the data table representing a 1 km^2 cell. This cell size has been used as it represents the approximate area a single containment and recovery operation or surface dispersant operation (single sortie or vessel spraying) can effectively treat in one ten (10) hour day. Smaller cell sizes have been considered but would not change the response need as the potential distance between cells would not allow multiple cells to be treated per day by response operations. Additionally, a 1 km^2 cell is expected to allow averaging of threshold concentrations and mass across the spatial extent to represent a conservative approach (patches of oil and windrows) to response planning that simulates operational monitoring feedback in a real event.

Deterministic modelling was carried out on MEE-01 and MEE-05 as the WCCSs and used for response planning purposes. A sample of the deterministic results is provided below as an indication of the data format and content.

- Column A and B provide the latitude and longitude of the cell
- Column C is the elapsed time since the release occurred
- Column D represents the average concentration across the cell in g/m^2
- Column E represents the viscosity of the hydrocarbon in centistokes (cSt) at sea surface temperature
- Column F and G represents the mass of hydrocarbon across the entire cell in kg and tons respectively.

Table 2-3: Example Deterministic modelling data

Latitude	Longitude	Time_hour	Conc_gm^2	Visc_cSt	Mass_kg	Mass_tons
A	B	C	D	E	F	G
-19.711226	115.814366	6	6.413877	81.007389	6429.693282	6.413877
-19.702194	115.814366	6	1.740181	81.300190	1744.571745	1.740181
-19.720258	115.823922	6	1.869578	76.440503	1874.078751	1.869578
-19.711226	115.823922	6	51.471109	80.668490	51597.969472	51.471109
-19.702194	115.823922	6	4.734574	80.068396	4746.515274	4.734574
-19.720258	115.833477	6	4.879617	58.780817	4891.356945	4.879617
-19.711226	115.833477	6	36.161301	70.992921	36250.382543	36.161301

The deterministic modelling data provides an indication of the response need by displaying the potential surface area and volume treated or recovered by response operations. Existing capability is reviewed to approximate the surface area and volumes that can be treated or removed and a range of alternate, improved and additional options to reduce risks and impacts to ALARP are considered.

Woodside recognises no single response technique will treat all available subsea or surface oil and a combination of response techniques will be required for the identified scenario. Even with the significant resources available to Woodside through existing capability and third-party resources, the primary offshore response techniques of surface dispersant application and containment and recovery will only treat or recover a minor proportion (<30%) of the available surface hydrocarbons based on previous response experience.

Woodside is committed to a realistic, scalable response capability commensurate to the level of risk and able to be practically implemented and feasibly sustained.

2.3.3 Response planning thresholds for surface and shoreline hydrocarbon exposure

Thresholds to determine the EMBA are used to predict and assess environmental impacts and inform the operational and scientific monitoring (OSM), however they do not appropriately represent the thresholds at which an effective response can be implemented. Additional response thresholds are used for response planning and to determine areas where response techniques would be most effective. The deterministic modelling is then used to assess the nature and scale of a response.

In the event of an actual response, existing deterministic modelling would be reviewed for suitability and additional modelling would be conducted using real-time data and field information to inform IMT decisions.

The deterministic spill modelling outputs are presented at response planning thresholds for surface hydrocarbons for the WCCS. Surface spill concentrations are expressed as grams per square metre (g/m^2) (Section 2.2). The thresholds used are derived from oil spill response planning literature and industry guidance and are summarised below.

2.3.3.1 Surface hydrocarbon concentrations

Table 2-4: Surface hydrocarbon thresholds for response planning

Surface hydrocarbon threshold (g/m^2)	Description	Bonn Agreement Oil Appearance Code	Mass per area (m^3/km^2)
>10	Predicted minimum threshold for commencing monitor and evaluate[2]	Code 3 – Dull metallic colours	5 to 50
50	Predicted minimum floating oil threshold for containment and recovery and surface dispersant application [3]	Code 4 – Discontinuous true oil colour	50 to 200
100	Predicted optimum floating oil threshold for containment and recovery and surface dispersant application	Code 5 – Continuous true oil colour	>200
Shoreline hydrocarbon threshold (g/m^2)	**Description**	**National Plan Guidance on Oil Contaminated Foreshores**	**Mass per area (m^3/km^2)**
100	Predicted minimum shoreline accumulation threshold for shoreline assessment operations	Stain	>100
250	Predicted minimum threshold for commencing shoreline clean-up operations	Level 3 – Thin Coating	200 to 1000

[2] Operational monitoring will be undertaken from the outset of a spill whether or not this threshold has been reached. Monitoring is needed throughout the response to assess the nature of the spill, track its location and inform the need for any additional monitoring and/or response techniques. It also informs when the spill has entered State Waters and control of the incident passes to statutory authorities e.g. Western Australia Department of Transport and Major Infrastructure (WA DTMI) or AMSA.

[3] At 50 g/m^2, containment and recovery and surface dispersant application operations are not expected to be particularly effective. This threshold represents a conservative approach to planning response capability and containing the spread of surface oil.

The surface thickness of oil at which dispersants are typically effective is approximately 100 g/m^2. However, substantial variations occur in the thickness of the oil within the slick, and most fresh crude oils spread within a few hours, so overall the average thickness is 0.1 mm (or approx. 100 g/m^2 ITOPF 2011). Additionally, the recommended rate of application for surface dispersant is typically one part dispersant to 20 or 25 parts of spilled oil. These figures assume a 0.1 mm slick thickness, averaged over the thickest part of the spill, to calculate a litres/hectare application rate from vessels and aircraft. In practice this can be difficult to achieve as it is not possible to accurately assess the thickness of the floating oil.

Some degree of localised over-dosage and under-dosage is inevitable in dispersant response. An average oil layer thickness of 0.1 mm is often assumed, although the actual thickness can vary over a wide range (from less than 0.0001 mm to more than 1 mm) over short distances (International Petroleum Industry Environment Conservation Association [IPIECA] 2015).

Guidance from the Australian Maritime Safety Authority (AMSA, 2020) indicates spreading of spills of Group II or III products will rapidly decrease slick thickness over the first 24 hours of a spill resulting in the potential requirement of up to a ten (10) fold increase in capability on day 2 to achieve the same level of performance.

Further guidance from the European Maritime Safety Authority (EMSA) states spraying the 'metallic' looking area of an oil slick (Bonn Agreement Oil Appearance Code [BAOAC] 3, approx. 5 – 50 µm) with dispersant from spraying gear designed to treat an oil layer 0.1 mm (100 µm) thick, will inevitably cause dispersant over-treatment by a factor of 2 to 20 times (EMSA 2012).

Therefore, dispersant application should be concentrated on the thickest areas of an oil slick and Woodside intends on applying surface dispersants to only BAOAC 4 and 5. Spraying areas of oil designated as BAOAC Code 4 (Discontinuous true oil colour) with dispersant will, on average, deliver approximately the recommended treatment rate of dispersant.

Spraying areas of oil designated as BAOAC Code 5 with dispersant (Continuous true oil colour and more than 0.2 mm thick) will, on average, deliver approximately half the recommended treatment rate of dispersant. Repeated application of these areas of thicker oil, or increased dosage ratios, will be required to achieve the recommended treatment rate of dispersant (EMSA 2012).

Guidance from NOAA in the United States is found in the document: *Characteristics of Response Strategies: A Guide for Spill Response Planning in Marine Environments 2013 (NOAA 2013).* This guide outlines advice for response planning across all common techniques, including surface dispersant spraying and containment and recovery. It states oil thickness can vary by orders of magnitude within distinct areas of a slick, thus the actual slick thickness and oil distribution of target areas are crucial for determining response method feasibility. Further to this, ITOPF also states in terms of oil spill response, sheen can be disregarded as it represents a negligible quantity of oil, cannot be recovered or otherwise dealt with to a significant degree by existing response techniques, and is likely to dissipate readily and naturally (ITOPF, 2014a, 2014b).

Figure 2-4 below from AMSA's Identification of Oil on Water – Aerial Observation and Identification Guide (AMSA, 2014) shows expected percent coverage of surface hydrocarbons as a proportion of total surface area. Wind-rows, heavy oil patches and tar balls, for example, must be considered, as they influence oil encounter rates, chemical dosages and ignition potential. Each method has different thickness thresholds for effective response.

From this information and other relevant sources (Allen and Dale, 1996, EMSA, 2012, Spence, 2018) the surface threshold of 50 g/m^2 was chosen as an average/equilibrium thickness for offshore response operations (50 g/m^2 is an average of 50% coverage of 0.1 mm Bonn Agreement Code 4 – discontinuous true oil colour, or 25% coverage of 0.2 mm Bonn Agreement Code 5 – continuous true oil colour which would represent small patches of thick oil or wind-rows).

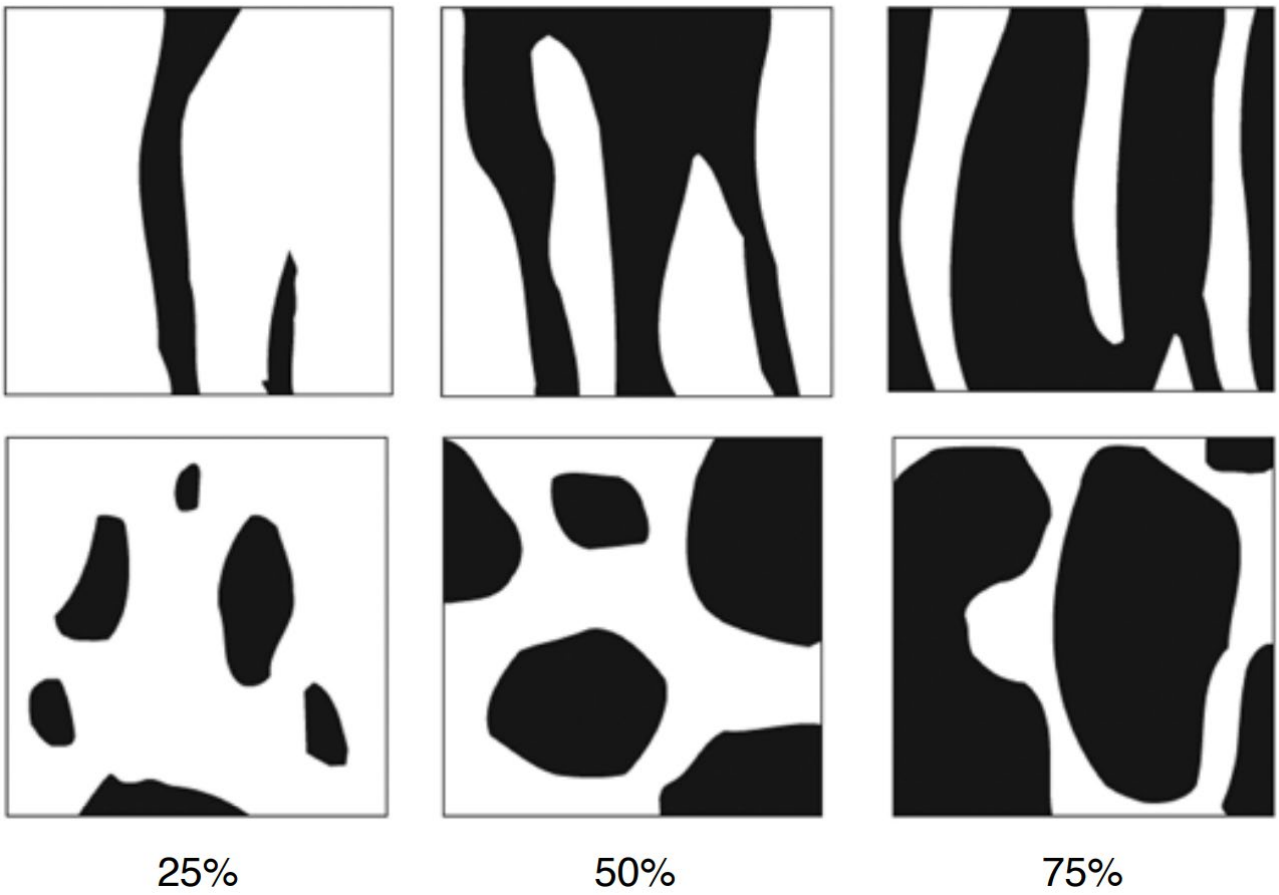

Figure 2-4: Proportion of total area coverage (AMSA, 2014)

Figure 2-5 illustrates the general relationships between on-water response techniques and slick thickness. Wind-rows, heavy oil patches and tar balls, for example, must be considered, as they influence oil encounter rates, chemical dosages and ignition potential. Each method has different thickness thresholds for effective response.

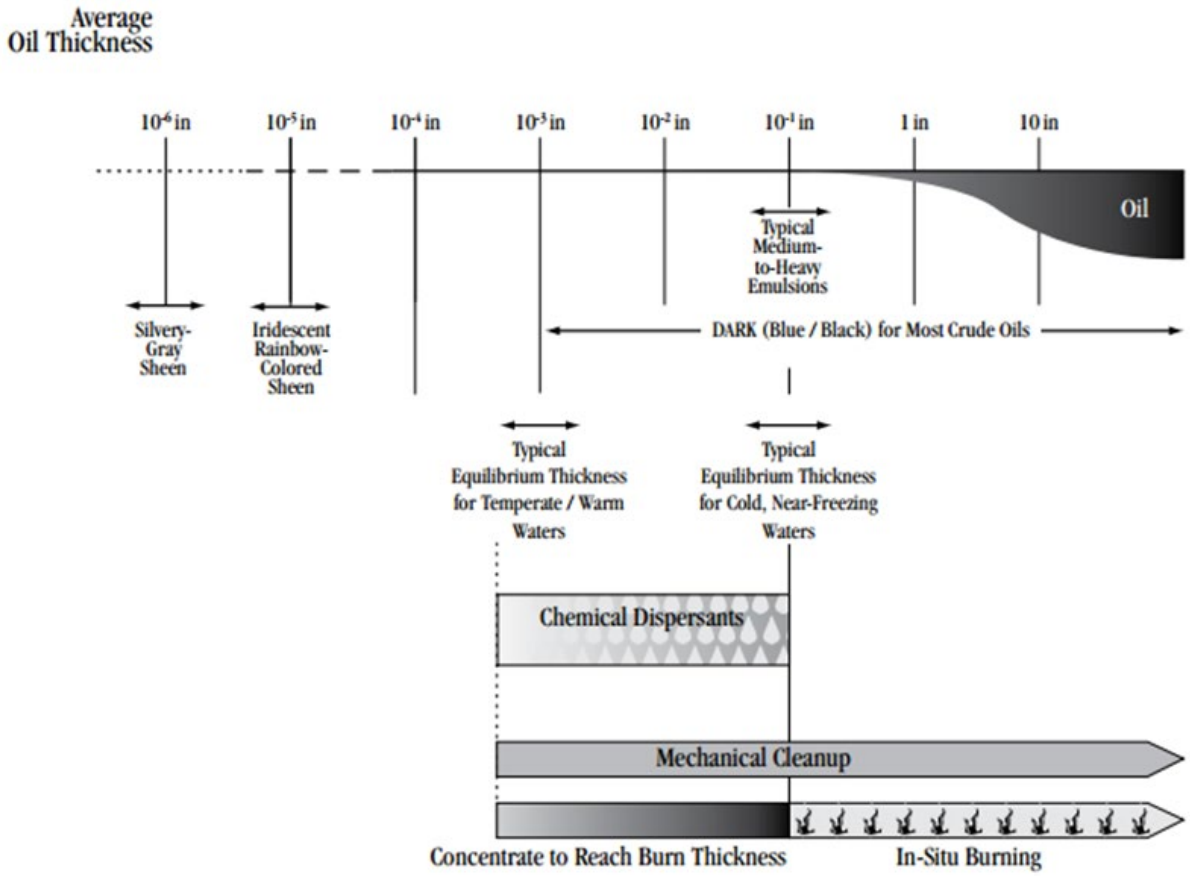

Figure 2-5: Oil thickness versus potential response options (from Allen & Dale 1996)

Wind and wave influence on the feasibility of response operations are also considered below (adapted from NOAA 2013):

- Mechanical Clean-up: Effectiveness drops significantly because of entrainment and/or splash-over as short period waves develop beyond 2–3 ft. (0.6–0.9m) in height. The ability to contain and recover oil decreases rapidly as the slick thickness becomes less than a thousandth of an inch (0.025 mm) (i.e., very low oil encounter rates). Waves and wind can also be limiting factors for the safe operation of vessels and aircraft.
- Dispersants: Effective dispersion requires a threshold amount of surface mixing energy (typically a few knots of wind and a light chop) to be effective. At higher wind and sea conditions, dispersant evaporation and wind-drift will limit chemical dispersion application effectiveness; and, there is a point (~25-kt winds, 10-ft waves) where natural dispersion forces become greater, particularly for light oils. Because of droplet size versus slick thickness constraints and application dose-rate limitations, dispersants work best on slick thicknesses of a few thousandths (approx. 50 g/m^2) to hundredths of an inch (approx. 250 g/m^2). Improved dispersants, higher dose rates, and multiple-pass techniques may extend the thickness limitation to 0.1 inch (2.5 mm) or more.

As offshore response operations (surface dispersant and containment and recovery) are intended to be undertaken at the thickest part of the slick, 50 g/m^2 and 100 g/m^2 (aligning with the lower limit of BAOAC 4 and midpoint of BAOAC 5) have been utilised by Woodside in deterministic modelling to identify the most likely locations for surface dispersant application and containment and recovery operations.

2.3.3.2 Surface hydrocarbon viscosity

Table 2-5: Surface hydrocarbon viscosity thresholds

Surface viscosity threshold (cSt)	Description	European Maritime Safety Authority (EMSA)	Viscosity at sea temperature (cSt)
5,000*	Predicted optimum viscosity for surface dispersant operations	Generally possible to disperse	500-5,000
10,000*	Predicted maximum viscosity for effective surface dispersant operations	Sometimes possible to disperse	5,000-10,000

*Measured at sea surface temperature

Further to the required thickness for surface dispersant application and containment and recovery to be deployed effectively as outlined above, changes to viscosity will also limit the treatment of offshore response techniques. As outlined in the EMSA Manual on the Applicability of Oil Spill Dispersants (EMSA, 2012), guidance around changes to viscosity and likely effectiveness of surface dispersant application is provided.

This includes the following statements: “It has been known for many years that it is more difficult to disperse a high viscosity oil than a low or medium viscosity oil. Laboratory testing had shown that the effectiveness of dispersants is related to oil viscosity, being highest for modern ‘Concentrate, UK Type 2/3’ dispersants at an oil viscosity of about 1,000 or 2,000 mPa (1,000 – 2,000 cSt) and then declining to a low level with an oil viscosity of 10,000 mPa (10,000 cSt). It was considered that some generally applicable viscosity limit, such as 2,000 or 5,000 mPa (2,000 – 5,000 cSt), could be applied to all oils.”

However, modern oil spill dispersants are generally effective up to an oil viscosity of 5,000 mPa (5,000 cSt) or more, and their performance gradually decreases with increasing viscosity; oils with a viscosity of more than 10,000 cSt are in most cases, no longer dispersible. Guidance from CEDRE (EMSA, 2012) also indicates products with a range of 500 – 5,000 cSt at sea temperature are generally possible to disperse, while 5,000 – 10,000 cSt at sea temperature above pour point are sometimes possible to disperse, with products beyond 10,000 cSt at sea temperature below pour point are generally impossible to disperse.

To support decision making and response planning, a threshold of 10,000 cSt at sea temperature was chosen as a conservative estimate of maximum viscosity for surface dispersant spraying operations.

The thresholds described above are compared with the modelling results for the WCCS (Table 2-6).

2.3.4 Spill modelling results

Details of the scenario and modelling inputs are included along with deterministic results in Table 2-6.

The selected deterministic runs used to represent the WCCS are:

- Minimum time to floating hydrocarbon contact with the offshore edge(s) of any shoreline receptor polygon (at a threshold of 10 g/m^2).
- Minimum time to commencement of hydrocarbon accumulation at any shoreline receptor (at a threshold of 100 g/m^2).
- Maximum cumulative hydrocarbon volume accumulated at any individual shoreline receptor (at a threshold of 100 g/m^2).
- Maximum cumulative hydrocarbon volume accumulated across all shoreline receptors (at a threshold of 100 g/m^2).
- Minimum time to entrained/dissolved hydrocarbon contact with the offshore edges of any receptor polygon (at a threshold of 100 ppb).

Table 2-6: Worst case credible scenario modelling results

Scenario description	Results	
	MEE-01 (WCCS)	**MEE-05**
WCCS – total volume released Refer to Section 2.1.1 for detailed hydrocarbon characteristics	Subsea hydrocarbon release (Cossack Light Crude) caused by loss of containment after a loss of well control Subsurface – 83,212 m^3 over 77 days	Surface hydrocarbon release (Cossack Light Crude) caused by vessel cargo tank rupture 30,302 m^3 over 24 hours
WCCS – residual volume remaining post-weathering	15.2% residue or 12,648 m^3 of Cossack Light Crude	15.2% residue or 4,606 m^3 of Cossack Light Crude
Location	19° 26’ 58.47” S, 116° 29’ 16.23” E	19° 35' 21.00" S, 116° 26' 48.00" E
Deterministic modelling results		
Surface area of hydrocarbons (>50 g/m^2)	*No floating hydrocarbons at response thresholds*	9 km^2 (2,251 m^3) on day 1 15 km^2 (1,633 m^3) on day 2 14 km^2 (1,261 m^3) on day 3 No floating hydrocarbons at response thresholds beyond day 3.
Surface area of hydrocarbons (>50 g/m^2 and <10,000 cSt)	*No floating hydrocarbons at response thresholds*	9 km^2 (2,251 m^3) on day 1 15 km^2 (1,633 m^3) on day 2 14 km^2 (1,261 m^3) on day 3 No floating hydrocarbons at response thresholds beyond day 3.
Minimum time to floating hydrocarbon contact with the offshore edge(s) of any shoreline receptor polygon (at a concentration of 10 g/m^2)	*No contact at threshold*	Replicate No. 2, Q2 7.7 days (Montebello Islands and State Marine Park
Minimum time to commencement of hydrocarbon accumulation at any shoreline receptor (at a concentration of 100 g/m^2)	Replicate No. Q4_015 Muiron Islands including MMA and WHA – 19.7 days (9 m^3)	Replicate No. 24, Q2 7.2 days at Barrow Island (42 m^3)
Maximum cumulative hydrocarbon volume accumulated at any individual shoreline receptor (at a concentration of 100 g/m^2).	Replicate No. Q4_003 Muiron Islands including MMA and WHA – 34 m^3 (62.3 days)	Replicate No. 32, Q2 110 m^3 at Montebello Islands and State Marine Park (11.1 days)
Maximum cumulative hydrocarbon volume accumulated across all shoreline receptors contacted by accumulated hydrocarbons (at a concentration of 100 g/m^2)	Replicate No. Q2_002 Southern Pilbara Islands including Peak Island – 21 m^3 (45.6 days)	Replicate No. 32, Q2 110 m^3 at Montebello Islands and State Marine Park (11.1 days)
Minimum time to entrained/dissolved hydrocarbon contact with the offshore edges of any receptor polygon (at a threshold of 100 ppb)	4.25 days at Rankin Bank	1.8 days at Glomar Shoal
The full list of response protection areas (RPAs) predicted from modelling is available in Table 3-1.		

Modelling results have been analysed and results have been used as the basis for response planning and are included in Section 4.2.

The map below (Figure 2-6) displays the predicted surface concentration of oil for MEE-05 at 0-50 g/m^2, 51–200 g/m^2 (BAOAC Code 4 – discontinuous true oil colour - brown) and greater than 201 g/m^2 (BAOAC Code 5 – continuous true oil colour - black) over the initial six days. This is the only scenario to present floating hydrocarbons above the minimum offshore response threshold (>50 g/m^2) and thus has been chosen for planning purposes.

As shown in analysis of the deterministic results presented in Table 2-6 and Figure 2-6, the modelling predicts the following:

- MEE-01 modelling predicts there will be no floating oil above 10 g/m^2 at any RPAs.
- MEE-05 modelling predicts there will be floating oil above 10 g/m^2 at Montebello State Marine Park on day 7.7. This will trigger monitor and evaluate and operational monitoring activities.
- Fastest contact for MEE-01 at minimum shoreline response threshold (>100 g/m^2) is predicted at Muiron Islands including MMA and WHA on day 19.7 days.
- Fastest shoreline contact for MEE-05 at 100 g/m^2 is Barrow Island (7.2 days), this will trigger assessment of shoreline response operations.
- The surface release (MEE-05) results in surface concentrations at thresholds suitable for containment and recovery and surface dispersant operations up to 72 hours after a spill (Figure 2-6).
- Due to the nature of Cossack Light Crude (15.2% residue) the mass of hydrocarbon compounds that will not evaporate at atmospheric temperatures indicate that surface dispersant is deemed an appropriate response technique to disperse oil before it reaches the shoreline for MEE-05. Dispersant would only be applied where the threshold criteria (>50 g/m^2 and <10,000 cSt) are met and whilst the oil remains within the Zone of Application (ZoA). For MEE-05, surface oil is predicted to remain within the pre-defined ZoA for the duration that the oil meets the threshold criteria.
- For MEE-01 there is no floating oil predicted above the minimum threshold of 50 g/m^2 for feasible surface dispersant application or containment and recovery.
- Response operations cannot be implemented if the safety of response personnel cannot be guaranteed. Safety circumstances that limit the execution of this control measure include volatile concentrations of hydrocarbons in the atmosphere, high winds (>20 knots), waves and/or sea states (>1.5m waves) and high ambient temperatures.

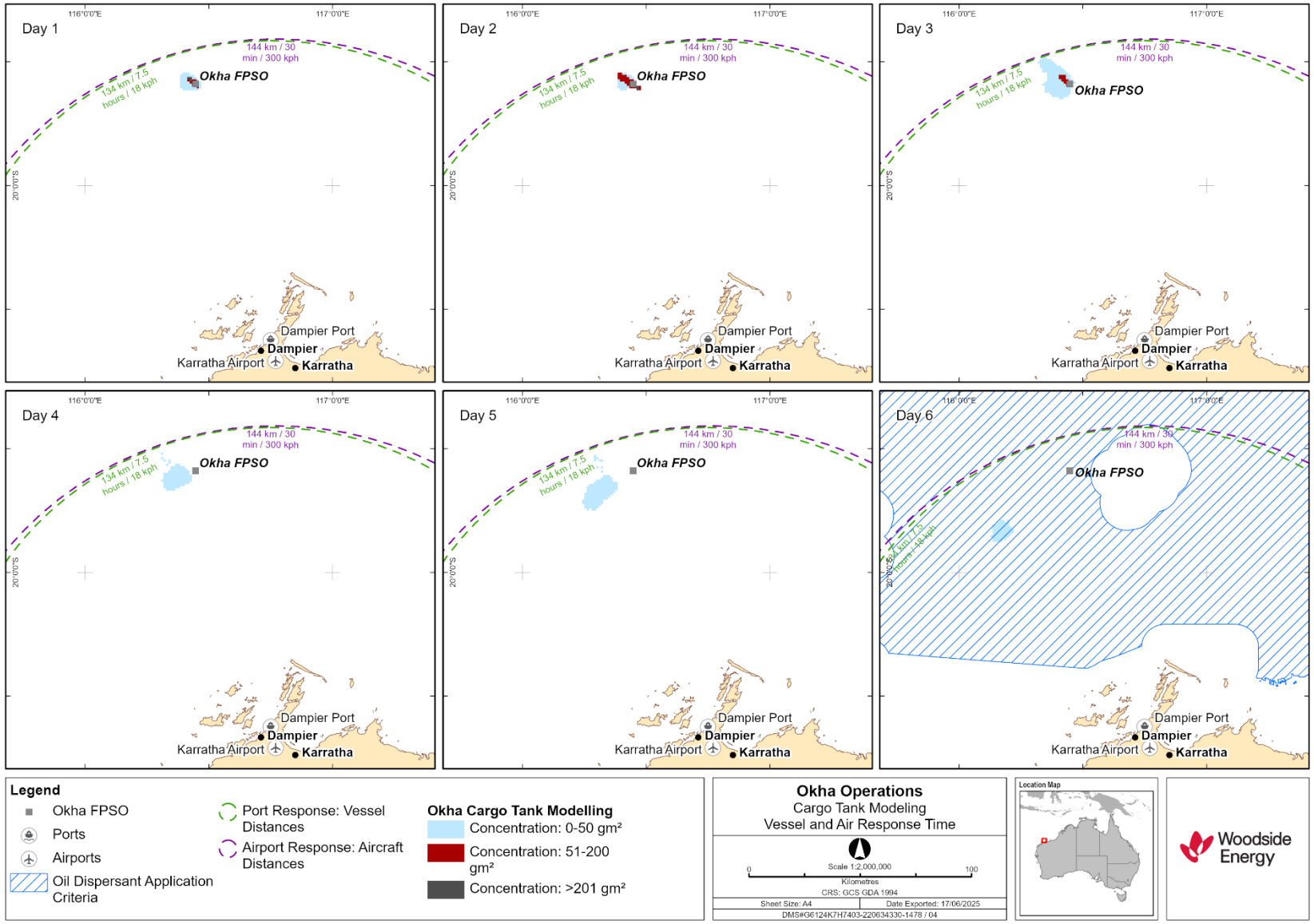

Figure 2-6: Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05), Day 1 to 6 – Surface oil concentration

3 IDENTIFY RESPONSE PROTECTION AREAS (RPAs)

In a response, monitor and evaluate techniques – including trajectory modelling and vessel/aerial observations – would be used to predict RPAs that may be impacted. For the purposes of planning and appropriately scaling a response, modelling has been used to identify RPAs as outlined below in Figure 3-1.

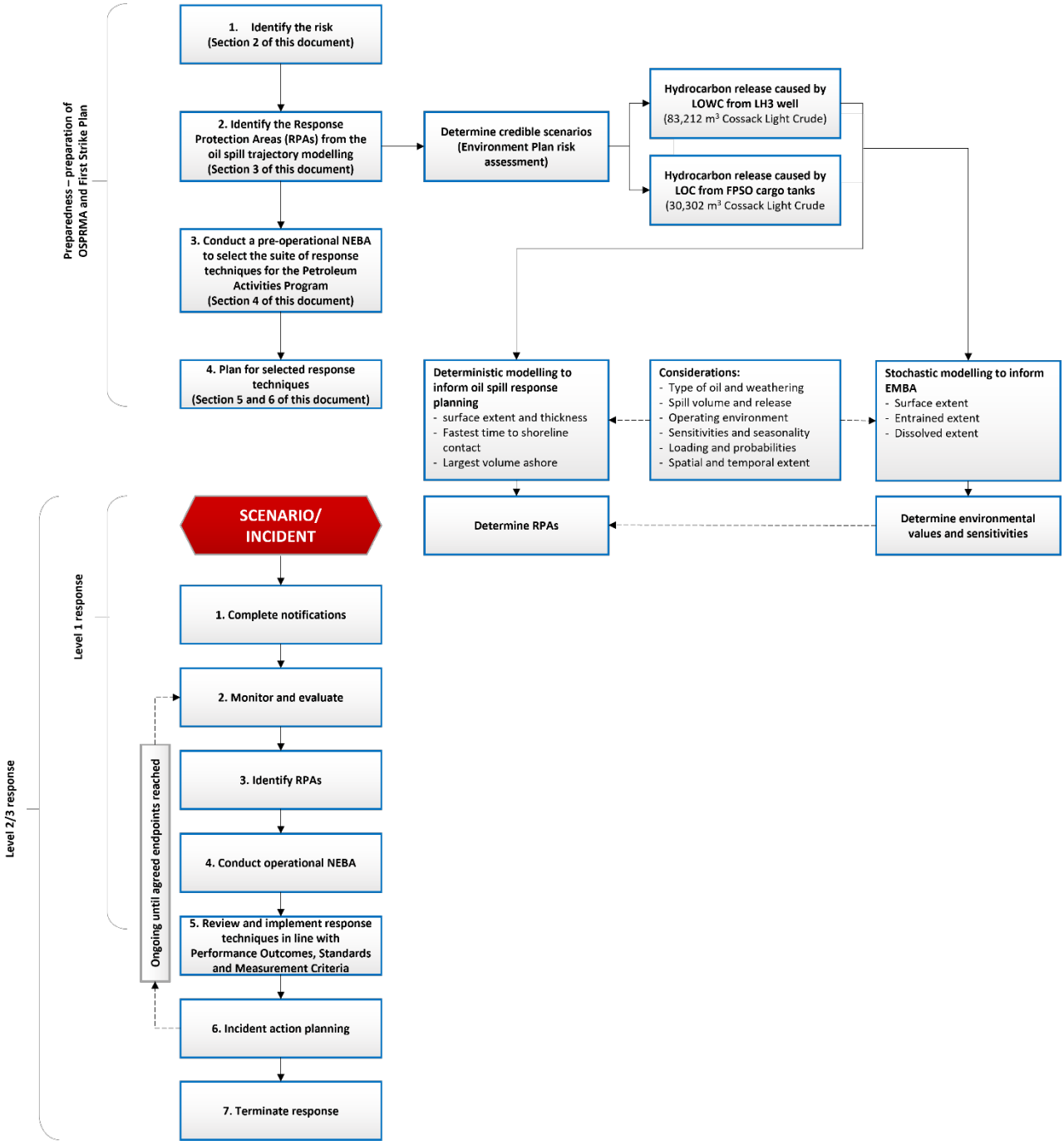

Figure 3-1: Identify Response Protection Areas (RPAs) flowchart

3.1 Identified sensitive receptor locations

Section 4 of the EP includes the list of sensitive receptor locations that have been identified by stochastic modelling as meeting the requirements outlined below:

- receptors with the potential to incur surface, entrained or shoreline accumulation contact above environmental impact thresholds
- receptors within the EMBA which meet the following:
  - a number of priority protection criteria/categories
  - International Union of Conservation of Nature (IUCN) marine protected area categories
  - high conservation value habitat and species
  - important socio-economic/heritage value.

3.2 Identify Response Protection Areas (RPAs)

RPAs have been selected on the basis of their environmental ecological, social, economic, cultural and heritage values and sensitivities and the ability to conduct a response based on the minimum response thresholds (Section 2.3.3.1). It is important to note that the figures outlined in Table 3-1 are the combined results of the individual worst-case runs and do not indicate a single worst case credible scenario (where the timings and volumes are all expected from one release).

From the identified sensitive receptors described in Section 4 of the EP, only those which a shoreline response could feasibly be conducted (accumulation > 100 g/m^2 for shoreline assessment and/or contact with surface slicks >10 g/m^2 for monitor and evaluate activities) have been selected for response planning purposes. While not discounting other sensitivities, these RPAs have been used as the basis for demonstrating the capability to respond to the nature and scale of a spill from the WCCS and prioritising response techniques.

Table 3-1 outlines locations which were identified from the modelling runs for the WCCS but does not constitute the full list of Priority Protection Areas (PPAs) potentially contacted from stochastic modelling (as per EMBA definition) (see Section 4 of the EP). Other PPA outliers were identified from the modelling and have been included in the assessment of capability in Sections 5 and 6.

Additional sensitive receptors are presented the existing environment description (Section 4 of the EP) and impact assessment section (Section 6 of the EP) for each respective spill scenario. The pre-operational NEBA (Section 4) considers the results from the stochastic modelling to allow consideration of all feasible response techniques are considered in the planning phase, therefore additional receptors are also included in the pre-operational NEBA.

The RPAs identified in Table 3-1 are used to plan for the nature and scale of a shoreline response.

Table 3-1: Response Protection Areas (RPAs) from deterministic modelling

Response protection area	Conservation status	IUCN protection category	Minimum time to shoreline contact (above 100 g/m^2) in days [4]	Maximum shoreline accumulation (above 100 g/m^2) in m^3 [5]	Minimum time to shoreline contact (above 100 g/m^2) in days	Maximum shoreline accumulation (above 100 g/m^2) in m^3
			MEE-01		MEE-05	
Barrow Island	Barrow Island Marine Park Barrow Island Marine Management Area	IUCN IA – Strict Nature Reserve IUCN VI – Multiple Use Zone IUCN IV – Recreational Use Zone	*No contact*	*No contact*	7.2 days (42 m^3)	59 m^3 (12.8 days)
Montebello Islands and MP including Hermite Island	State Marine Park Australian Marine Park	IUCN IA – Strict Nature Reserve IUCN VI – Multiple Use Zone IUCN II and IV – Recreational Use Zone IUCN II – Marine National Park Zone	83 days (3 m^3)	3 m^3 (83 days)	11.1 days (110 m^3)	110 m^3 (11.1 days)
Lowendal Islands	State Marine Park	IUCN VI – Multiple Use Zone	*No contact*	*No contact*	21.5 days (5 m^3)	5 m^3 (21.5 days)
Muiron Islands including MMA and WHA	Muiron Islands Marine Management Area	IUCN IA – Strict Nature Reserve IUCN VI – Multiple Use Zone	19.7 days (9 m^3)	34 m^3 (62.3 days)	40.8 days (4 m^3)	4 m^3 (40.8 days)
Exmouth, Ningaloo Coast WH and State MP	N/A	N/A	67 days (9 m^3)	9 m^3 (67 days)	*No contact*	*No contact*
Middle Pilbara - Islands & Shoreline	State Marine Park Australian Marine Park	IUCN IV – Recreational Use Zone (AMP) IUCN II – Marine National Park Zone	*No contact*	*No contact*	40.6 days (14 m^3)	14 m^3 (40.6 days)

[4] This volume and time represent the first time to contact on defined shoreline polygon and the maximum volume ashore for that 24 hour period.
[5] This volume and time represent the maximum volume ashore on defined shoreline polygon for any 24 hour time period

Response protection area	Conservation status	IUCN protection category	Minimum time to shoreline contact (above 100 g/m^2) in days [4]	Maximum shoreline accumulation (above 100 g/m^2) in m^3 [5]	Minimum time to shoreline contact (above 100 g/m^2) in days	Maximum shoreline accumulation (above 100 g/m^2) in m^3
			MEE-01		MEE-05	
Southern Pilbara Islands	State Marine Park Australian Marine Park	IUCN IV – Recreational Use Zone (AMP) IUCN II – Marine National Park Zone	45.6 days (21 m^3)	21 m^3 (45.6 days)	19.8 days (34 m^3)	34 m^3 (19.8 days)
Bessieres Island	Nature Reserve	N/A	81.3 days (5 m^3)	5 m^3 (81.3 days)	*No contact*	*No contact*
Flat Island	Nature Reserve	N/A	48.7 days (9 m^3)	9 m^3 (48.7 days)	*No contact*	*No contact*
Round Island	Nature Reserve	N/A	55.3 days (2 m^3)	2 m^3 (55.3 days)	*No contact*	*No contact*
Serrurier Island	Nature Reserve	N/A	49.2 days (5 m^3)	5 m^3 (49.2 days)	*No contact*	*No contact*
Sunday Island	Nature Reserve	N/A	20.3 days (2 m^3)	6 m^3 (50.2 days)	*No contact*	*No contact*

4 NET ENVIRONMENTAL BENEFIT ANALYSIS (NEBA)

A Net Environmental Benefit Analysis (NEBA) is a structured process to consider which response techniques are likely to provide the greatest net environmental benefit.

The NEBA process typically involves four key steps outlined in Figure 4-1: evaluate data, predict outcomes, balance trade-offs, and select response options. These steps are followed in the planning/preparedness process and would also be followed in a response.

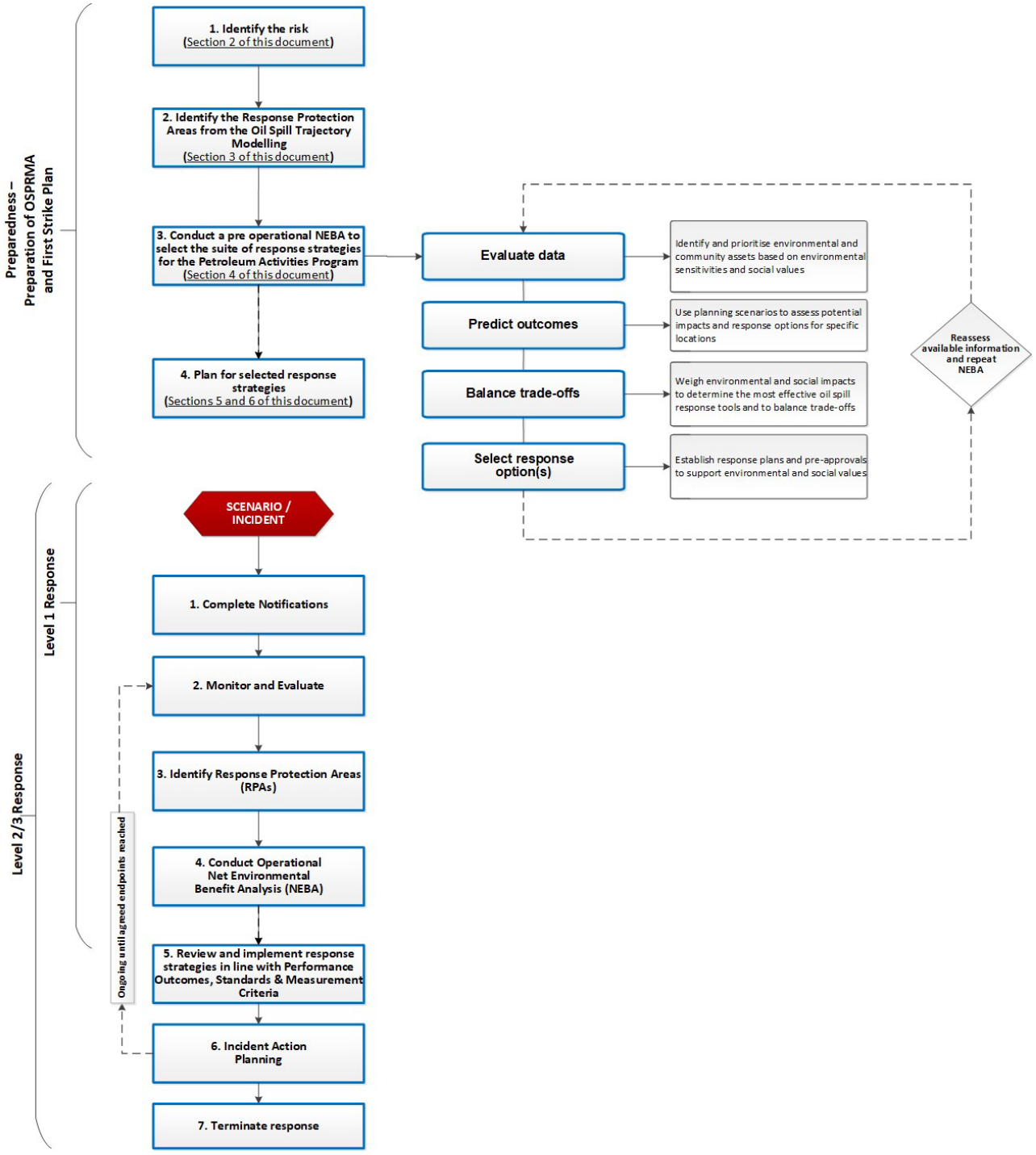

Figure 4-1: Net Environmental Benefit Analysis (NEBA) flowchart

4.1 Pre-operational / Strategic NEBA

The pre-operational NEBA identifies positive and negative impacts to sensitive receptors from implementing the response techniques. Feasibility is considered by assessing the receptors potentially impacted above response thresholds (Section 2.3.3) and the surface concentrations (Section 2.3.3.1) from the deterministic modelling.

Completing a pre-operational NEBA is a key response planning control that reduces the environmental risks and impacts of implementing the selected response techniques. Comprehensive details of the pre-operational NEBA for this PAP are contained in ANNEX A: Net Environmental Benefit Analysis detailed outcomes.

4.2 Stage 1: Evaluate data

Woodside identifies and prioritises environmental and community assets based on environmental sensitivities and social values, informed through the use of trajectory modelling. Interpretation of stochastic oil spill modelling determines the EMBA for the release, which defines the spatial area that may be potentially impacted by the PAP activities.

4.2.1 Define the scenario(s)

Woodside uses scenarios identified from the risk assessment in the EP to assess potential impacts and response options for specific locations. The WCCS is then selected for deterministic modelling and is used for this pre-operational NEBA. Outlier locations with potential environmental impacts, selected from the stochastic modelling may also be included for assessment. Response thresholds and deterministic modelling are then used to assess the feasibility/effectiveness and scale of the response. Modelling results are available in Table 2-6 and Table 3-1.

4.3 Stage 2: Predict Outcomes

Woodside uses planning scenarios to assess potential impacts and response options for specific locations. Locations with potential environmental impacts, selected from the stochastic modelling are included for assessment. Response thresholds and deterministic modelling are then used to assess the feasibility/ effectiveness of a response.

4.4 Stage 3: Balance trade-offs

Woodside considers environmental impacts and response effectiveness/ feasibility to determine the most effective oil spill response tools and balance trade-offs, using an automated NEBA tool. The tool considers potential benefits and impacts associated with a response at sensitive receptors and then considers the effectiveness/ feasibility of the response to select the response techniques carried forward to the ALARP assessment. The NEBA can be found in ANNEX A: Net Environmental Benefit Analysis detailed outcomes.

4.5 Stage 4: Select Best Response Options

To select the response technique, all the other stages in the NEBA process are considered and used to establish response plans and any pre-approvals to support protection of identified environmental and social values.

The response techniques implemented may vary according to a particular spill. The hydrocarbon type released and the sensitivities of the receptors (both ecological and socio-economic) may influence the response. The pre-operational NEBA broadly evaluates each response technique and supports decisions on whether they are feasible and of net environmental benefit. Response techniques that are not feasible or beneficial are rejected at this stage and not progressed to planning.

Further risks and impacts from implementing these selected response options are outlined in Section 7.

4.5.1 Determining potential response options

The available response techniques based on current technology can be summarised under the following headings:

- Monitor and evaluate
- Source control
  - Remotely operated vehicle (ROV) intervention

  - debris clearance and/or removal
  - capping stack
  - relief well drilling
- Source control via vessel SOPEP
- Subsea dispersant injection
- Surface dispersant application:
  - aerial dispersant application
  - vessel dispersant application
- Mechanical dispersion
- In-situ burning
- Containment and recovery
- Shoreline protection and deflection:
  - protection
  - deflection
- Shoreline clean-up:
  - Phase 1 – mechanical clean-up
  - Phase 2 – manual clean-up
  - Phase 3 – final polishing
- Oiled wildlife response (including hazing)

Support functions may include:

- Waste management
- Operational and scientific monitoring (routinely implemented for spills if the OMP and SMP initiation criteria are met).

Table 4-1 and Table 4-2 include scenario-specific assessments of feasible response options and justification for the exclusion of inappropriate options. These options are evaluated against the scenario parameters including oil type, volume, characteristics, prevailing weather conditions, logistical support, and resource availability to determine deployment feasibility.

A shortlist of the feasible response options is then carried forward for the ALARP assessment. This assessment will typically result in a range of available options, that are deployed at different areas (at-source, offshore, nearshore and onshore) and different times during the response. The NEBA process assists in prioritising which options to use where and when, and timings throughout the response.

Table 4-1: Response technique evaluation – Subsea release (MEE-01)

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
Hydrocarbon: Cossack Light Crude				
Monitor and evaluate	Will be effective in tracking the location of the spill, informing when it has entered State Waters, predicting potential impacts and triggering further monitoring and response techniques as required. Monitoring techniques include: • Predictive modelling of hydrocarbons – used throughout spill. 'Ground-truthed' using the outputs of all other monitoring techniques. • Surveillance and reconnaissance to detect hydrocarbons and resources at risk – from outset of spill. • Pre-emptive assessment of sensitive receptors at risk – triggered once operational monitoring informs likely RPAs at risk.	Monitoring of a Cossack Light Crude spill is a feasible response technique and an essential element of all spill response incidents. Outputs will be used to guide decision making on the use of other monitoring/response techniques and providing required information to regulatory agencies including AMSA and Western Australia Department of Transport and Major Infrastructure (WA DTMI).	Yes	Monitoring the spill will be necessary to: • validate trajectory and weathering models • determine the location and state of the slick • provide forecasts of spill trajectory • determine appropriate response techniques • determine effectiveness of response techniques • confirm impact pathways to receptors • provide regulatory agencies with required information.
Source control via blowout preventer (BOP) intervention using ROV and hotstab	N/A	N/A.	N/A	Okha comprises production wells thus no blowout preventers are present. BOP intervention and/or hotstab are therefore not feasible response techniques.
Source control via ROV intervention	Controlling a loss of well containment at source via ROV intervention would limit the quantity of hydrocarbon entering the marine environment.	ROV intervention is feasible via the subsea tree	Yes	Source control via ROV intervention using the subsea tree may be feasible and would reduce quantity of hydrocarbons entering the marine environment.
Source control via debris clearance and capping stack	Controlling a loss of well containment at source via capping stack would be an effective way to limit the quantity of hydrocarbon entering the marine environment.	Evaluation of the viability of utilising a capping stack for the Okha PAP has concluded that it is not a feasible response strategy. The subsea wells are comprised of vertical (VXT) subsea trees (Xmas tree). VXT have incompatible connector sizes and profiles (13 ⅝" connectors) with capping stacks (H4/HC 18 ¾" connector). Additionally, the well foundation may not have the required strength to carry the loads generated by a capping stack on top of VXT. In the case of damage to the tree, the loss of well integrity would be below the subsea tree and the release point would not be through the main bore of the tree thus placing a capping stack on top of the tree would be ineffective in ceasing the release. Removing the tree during a LOWC in these circumstances to place a capping stack on the wellhead would exacerbate the LOWC, increasing it from a restricted flow via the damaged tree to a full-bore release via the wellhead. Furthermore, damage to the Xmas tree is likely to also damage the wellhead connector and affect the inclination and/or sealing capability of the wellhead preventing successful deployment of a capping stack.	No	The PAP wells have vertical Xmas trees upon which a capping stack cannot be utilised due to incompatibility of connector sizes, inadequate load bearing capacity and/or, if the tree remains in place, the existing barriers would be remain active.
Source control via relief well drilling	A release of Cossack Light Crude will be over approximately 77 days. Relief well drilling is one of the primary options to stop the release.	For a spill from the Okha FPSO Facility well, relief well drilling will be a feasible means of stopping a loss of well containment event. Relief well drilling is a widely accepted and utilised technique.	Yes	Relief well drilling will be the main technique employed to control a loss of well containment event. The additional impacts introduced from drilling a relief well are comprehensively understood and are low in comparison to an ongoing release of hydrocarbons. Therefore, the environmental benefit for implementing relief well drilling outweighs the risk of implementing the response strategy.
Subsea dispersant injection	Application of subsea dispersant may reduce the scale and extent of hydrocarbons reaching the surface and thus may reduce spill volumes contacting predicted RPAs. SSDI can increase dispersed/entrained hydrocarbons which can potentially have higher toxicity to biota in shallow water than naturally dispersed hydrocarbons. Entrained oil could potentially impact on sensitive shallow-water receptors e.g. corals and fish, which may be otherwise unaffected.	Whilst laboratory testing has shown dispersant to be effective on Cossack, Wanaea, Lambert, Hermes (CWLH) crudes, modelling predicts that a subsea loss of well control scenario will not result in any floating oil at response threshold (>50 g/m^2) and shoreline impact threshold (>100 g/m^2) are not predicted until day 19.7 (MEE-01) therefore the use of subsea dispersants may not provide a net environmental benefit.	No	Modelling for a subsea release from LH3 is not predicted to result in surface oil at response threshold with a relatively long lead-time to shoreline impacts. The use of SSDI would therefore increase dispersed/ entrained hydrocarbon levels and exposure of subsea biota to potentially higher toxicity substances without providing a net environmental benefit. General safety risks associated with responding in close proximity to well release of volatile hydrocarbons.

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
	Entrained oil plume likely to be increased resulting in greater spatial extent of entrained oil.			
Surface dispersant application	Application of surface dispersant would likely reduce the volumes of hydrocarbons contacting sensitive surface receptors. Dispersant can also enhance biodegradation and may reduce volatile organic compounds (VOCs) in some circumstances therefore reducing potential health and safety risk to responders. Dispersant can increase dispersed/entrained hydrocarbons which can potentially have higher toxicity to biota in shallow water than naturally dispersed hydrocarbons. Subsurface oil plume likely to increase in size resulting in greater spatial extent of entrained oil. Entrained oil could potentially impact on sensitive shallow-water receptors e.g. corals, which otherwise may have been unaffected.	Dispersants are not generally considered a feasible response technique when applied on thin surface films as the dispersant droplets tend to pass through the surface films without binding to the hydrocarbon. Modelling predicts that floating oil will not reach the required minimum threshold (>50 g/m^2) for surface dispersant to be effective at any RPA.	No	Use of surface dispersant may potentially be an appropriate technique if operational monitoring detects surface hydrocarbons present at appropriate concentrations, a net environment benefit can be determined, and the safety of the response personnel can be ensured. However, no surface hydrocarbon is predicted to reach any sensitive receptors or open ocean at the minimum concentration threshold (>50 g/m2) required for this response option to be effective.
Mechanical dispersion	Mechanical dispersion involves the use of a vessel's prop wash and/or fire hose to target surface hydrocarbons to achieve dispersion into the water column. However, this technique is of limited benefit in an open ocean environment where wind and wave action are likely to deliver similar advantages.	Although the technique is feasible, highly volatile hydrocarbons are likely to weather, spread and evaporate quickly. The volatile nature of the oil likely to lead to unsafe conditions in the vicinity of fresh hydrocarbon. Additionally, any vessel used for mechanical dispersion activities would be contaminated by the hydrocarbon and could potentially cause secondary contamination of unimpacted areas when exiting the spill area. The decontamination of a vessel used for mechanical dispersion activities would result in additional quantities of oily waste requiring appropriate handling and treatment.	No	Given the limited benefit of mechanical dispersion over natural wind and wave action, secondary contamination and waste issues, and the associated safety risk of implementing the response for this activity, this strategy is deemed unsuitable.
In-situ burning	In-situ burning is only effective where minimum slick thickness can be achieved and where calm metocean conditions can be confirmed. Use of this technique would also cause an increase the release of atmospheric pollutants.	There is a limited window of opportunity in which this technique can be applied (prior to evaporation of the volatiles) which would be difficult to achieve. Furthermore, this technique may be prevented from being undertaken due to personnel safety issues arising from predicted high local concentrations of atmospheric volatiles.	No	The safety concerns and the predicted low effectiveness associated with implementing an in-situ burning response outweigh the potential environmental benefit.
Containment and recovery	Containment and recovery has an effective recovery rate of 5-10% when a hydrocarbon encounter rate of 25-50% is achieved at BAOAC 4 and 5. It has the potential to reduce the magnitude, probability, extent, contact and accumulation of hydrocarbon on shorelines receptors when suitable encounter rates can be achieved. It also has the potential to reduce the magnitude and extent of contact with submerged receptors by removing oil before further natural entraining/dissolving of hydrocarbons occurs.	Deterministic modelling predicts that floating oil will be prone to rapid spreading and evaporation and will not reach the required minimum threshold (>50 g/m^2) for containment and recovery to be effective at any RPA or in open waters. Predicted low effectiveness – typical expectation is less than 10% of hydrocarbon released can be contained and recovered. Deepwater Horizon/Macondo was approx. 3–5% with the largest containment and recovery operation ever conducted. Meteorological conditions and sea-state must allow the deployment of booms and skimmers. Surface hydrocarbon would need to be corralled to a sufficient thickness to permit efficient recovery by skimmers. Volatile nature of the hydrocarbon likely to lead to unsafe conditions near release location.	No	Surface concentrations are not predicted to meet the 50 g/m^2 minimum concentrations required for this response option to be effective at any RPA.
Shoreline protection and deflection	Shoreline protection and deflection can be effective at preventing contamination of sensitive resources and can be used to corral oil into slicks thick enough to skim effectively.	If real-time monitor and evaluate techniques indicate surface hydrocarbons are moving toward shorelines, pre-emptive assessments of sensitive receptors at risk and existing TRPs will be utilised to guide shoreline protection and deflection operations, in agreement with WA DTMI (for Level 2/3 spills). For MEE-01, first shoreline contact is predicted from floating surface hydrocarbon on Day 19.7 (9 m^3 at Muiron Islands including MMA and WHA) allowing adequate time to deploy this technique.	Yes	RPAs predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. If RPAs are deemed to be at risk, based on real-time modelling during a spill event, shoreline protection and deflection techniques will be employed to minimise hydrocarbon accumulation providing net environmental benefit.

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
		Protection strategies can be used for targeted protection of sensitive resources. Access to sensitive areas may cause more negative impact than benefit.		
Shoreline clean-up	Shoreline clean-up is an effective means of hydrocarbon removal from contaminated shorelines where coverage is at an optimum level of 250 g/m^2.	If real-time monitor and evaluate techniques indicate hydrocarbons will contact shorelines, pre-emptive assessments of sensitive receptors at risk, shoreline assessments and existing TRPs will be utilised, in agreement with WA DTMI (for Level 2/3 spills), to establish the extent and distribution of oiling and thus direct any shoreline clean-up. For MEE-01, first shoreline contact is predicted from floating surface hydrocarbon on Day 19.7 (9 m^3 at Muiron Islands including MMA and WHA) allowing adequate time to deploy this technique. Can reduce or prevent impact on sensitive receptors in most cases. Must confirm, through shoreline assessment, that sensitive sites will benefit from clean-up activities as the response itself may cause more negative impact than benefit through disturbance of habitats and species.	Yes	Response Protection Areas predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. If RPAs are at risk, based on real-time modelling during a spill event, shoreline clean-up techniques will be deployed to expedite clean-up of the impacted sites. Removal of hydrocarbons will help shorten the recovery window unless shoreline type is of a sensitive nature. This technique can help prevent remobilisation of hydrocarbon and impact on shorelines.
Oiled wildlife response	Oiled wildlife response is an effective response technique for reducing the overall impact of a spill on wildlife. This is mostly achieved through hazing to prevent additional wildlife from being contaminated and through rehabilitation of those already subject to contamination.	In the event that wildlife are at risk of contamination, oiled wildlife response will be undertaken in accordance with the Wildlife Response Operational Plan as and where required. In addition, any rehabilitation could only be undertaken by trained specialists. Due to the likely volatile atmospheric conditions surrounding a Pluto Condensate spill, response options may be limited to hazing to ensure the safety of response personnel.	Yes	This technique may prevent impact to and/or treat oiled wildlife providing net environmental benefit.

Table 4-2: Response technique evaluation – Surface hydrocarbon release caused by a vessel cargo tank rupture (MEE-05)

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
Hydrocarbon: Cossack Light Crude				
Monitor and evaluate	Will be effective in tracking the location of the spill, informing when it has entered State Waters, predicting potential impacts and triggering further monitoring and response techniques as required. Monitoring techniques include: • Predictive modelling of hydrocarbons – used throughout spill. 'Ground-truthed' using the outputs of all other monitoring techniques. • Surveillance and reconnaissance to detect hydrocarbons and resources at risk – from outset of spill. • Pre-emptive assessment of sensitive receptors at risk – triggered once operational monitoring informs likely RPAs at risk.	Monitoring of a Cossack Light Crude spill is a feasible response technique and outputs will be used to guide decision making on the use of other monitoring/response techniques and providing information to regulatory agencies including AMSA and WA DTMI. Practicable techniques that could be used for this scenario include predictive modelling, surveillance and reconnaissance and monitoring of hydrocarbon presence in water.	Yes	Monitoring the spill will be necessary to: • validate trajectory and weathering models • determine the location and state of the slick • provide forecasts of spill trajectory • determine appropriate response techniques • determine effectiveness of response techniques • confirm impact pathways to receptors • provide regulatory agencies with required information
Surface dispersant application	Application of surface dispersant would likely reduce the volumes of hydrocarbons contacting sensitive surface receptors. Dispersant can also enhance biodegradation and may reduce VOCs in some circumstances therefore reducing potential health and safety risk to responders. Dispersant can increase dispersed/entrained hydrocarbons which can potentially have higher toxicity to biota in shallow water than naturally dispersed hydrocarbons. Subsurface oil plume likely to increase in size resulting in greater spatial extent of entrained oil. Entrained oil could potentially impact on sensitive shallow-water receptors e.g. corals, which otherwise may have been unaffected.	Surface dispersant application may potentially provide a net environmental benefit where its use would reduce the volume of shoreline oiling in sensitive regions. At certain times it may not provide an environmental benefit, for example, during coral spawning seasons due to coral larvae being highly sensitivity to dispersants (Negri et al, 2018). Modelling predicts that the spatial and temporal extent of floating oil reaching the required minimum threshold (>50 g/m^2) for surface dispersant to be effective is present on day 1 (9 km^2), day 2 (15 km^2) and day 3 (14 km^2) only – see Figure 2-6. Thereafter, floating oil falls below the required minimum surface concentration. Use of surface dispersant would also only be permitted and/or only appropriate where favourable metocean conditions are present, a net environmental benefit can be demonstrated e.g. minimising shoreline accumulations, and where application is undertaken only within the pre-defined ZoA as illustrated in Figure 2-6. The ZoA is based on the following criteria: • 10km from Commonwealth Marine Parks (excluding 'Multiple Use Zones') • 10km from State Marine Parks • 10km from Heritage List areas • >20m water depth • 4km from State Waters • Within the Mainland Australian EEZ • Avoiding sensitive reefs and shoals Predicted to be feasible for the surface hydrocarbon release due to CWLH crude properties – dispersant efficacy testing shows it is effective up to 65% weathering. Safety of response personnel must be ensured before deployment.	Yes	If dispersant is considered appropriate for application during a real spill event where surface oil reaches the minimum required threshold, this would only be acceptable within the pre-defined ZoA criteria as illustrated in Figure 2-6 and only where a net environmental benefit can be demonstrated at the time of the incident.
Mechanical dispersion	Mechanical dispersion involves the use of a vessel's prop wash and/or fire hose to target surface hydrocarbons to achieve dispersion into the water column. However, this technique is of limited benefit in an open ocean environment where wind and wave action are likely to deliver similar advantages.	Although the technique is feasible, highly volatile hydrocarbons are likely to weather, spread and evaporate quickly. The volatile nature of the oil likely to lead to unsafe conditions in the vicinity of fresh hydrocarbon. Additionally, any vessel used for mechanical dispersion activities would be contaminated by the hydrocarbon and could potentially cause secondary contamination of unimpacted areas when exiting the spill area. The decontamination of a vessel used for mechanical dispersion activities would result in additional quantities of oily waste requiring appropriate handling and treatment.	No	Given the limited benefit of mechanical dispersion over natural wind and wave action, secondary contamination and waste issues, and the associated safety risk of implementing the response for this activity, this strategy is deemed unsuitable.
In-situ burning	In-situ burning is only effective where minimum slick thickness can be achieved.	Use of in-situ burning as a response technique for marine diesel is unfeasible as the minimum slick thickness cannot be attained due to rapid spreading. In addition, there is a limited window of opportunity in which this technique can be applied (prior to evaporation of the volatiles) which is unlikely to be achieved.	No	Diesel characteristics are not appropriate for the use of in-situ burning and would unnecessarily cause an increase the release of atmospheric pollutants.

Response Technique	Effectiveness	Feasibility	Decision	Rationale for the decision
		Furthermore, entering a volatile environment to undertake this technique would be unsafe for response personnel and its used would unnecessarily cause an increase the release of atmospheric pollutants.		
Containment and recovery	Containment and recovery has an effective recovery rate of 5-10% when a hydrocarbon encounter rate of 25-50% is achieved at BAOAC 4 and 5 with a 50-100% coverage of 100 g/m^2 to 200 g/m^2.	Modelling predicts that the spatial and temporal extent of floating oil reaching the required minimum threshold (>50 g/m^2) for containment and recovery to be feasible is present on day 1 (9 km^2), day 2 (15 km^2) and day 3 (14 km^2) only – see Figure 2-6. Thereafter, floating oil falls below the required minimum surface concentration. Meteorological conditions and sea-state must allow the safe deployment of booms and skimmers. Surface hydrocarbon would need to be corralled to a sufficient thickness to permit efficient recovery by skimmers. Volatile nature of the hydrocarbon likely to lead to unsafe conditions near release location.	Yes	Potential to slightly reduce the magnitude, probability of, extent of, contact with and accumulation on shorelines receptors if and when appropriate encounter rates can be achieved and in conditions that are safe for response personnel.
Shoreline protection and deflection	Shoreline protection and deflection can be effective at preventing contamination of at-risk areas.	If real-time monitor and evaluate techniques indicate surface hydrocarbons are moving toward shorelines, pre-emptive assessments of sensitive receptors at risk and existing TRPs will be utilised to guide shoreline protection and deflection operations, in agreement with WA DTMI (for Level 2/3 spills). For MEE-05, first shoreline contact is predicted from floating surface hydrocarbon on Day 7.2 (42 m^3 at Barrow Island) allowing adequate time to deploy this technique. Protection strategies can be used for targeted protection of sensitive resources. Access to sensitive areas may cause more negative impact than benefit.	Yes	Response Protection Areas predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. If RPAs are deemed to be at risk, based on real-time modelling during a spill event, shoreline protection and deflection techniques will be employed to minimise hydrocarbon contact providing net environmental benefit.
Shoreline clean-up	Shoreline clean-up is an effective means of hydrocarbon removal from contaminated shorelines where coverage is at an optimum level of 250 g/m^2.	If real-time monitor and evaluate techniques indicate hydrocarbons will contact shorelines, pre-emptive assessments of sensitive receptors at risk, shoreline assessments and existing TRPs will be utilised, in agreement with WA DTMI (for Level 2/3 spills), to establish the extent and distribution of oiling and thus direct any shoreline clean-up operations. For MEE-05, first shoreline contact is predicted from floating surface hydrocarbon on Day 7.2 (42 m^3 at Barrow Island) allowing adequate time to deploy this technique. Can reduce or prevent impact on sensitive receptors in most cases. Must ensure, through shoreline assessment, that sensitive sites will benefit from clean-up activities as the response itself may cause more negative impact than benefit through disturbance of habitats and species.	Yes	Response Protection Areas predicted to be contacted are based on modelling outputs and thus may differ under the prevailing conditions of a real event. If RPAs are at risk, based on real-time modelling during a spill event, shoreline clean-up techniques will be deployed to expedite clean-up of the impacted sites. Removal of hydrocarbons will help shorten the recovery window unless shoreline type is of a sensitive nature. This technique can help prevent remobilisation of hydrocarbon and impact on shorelines.
Oiled wildlife response	Oiled wildlife response is an effective response technique for reducing the overall impact of a spill on wildlife. This is mostly achieved through hazing to prevent additional wildlife from being contaminated and through rehabilitation of those already subject to contamination.	Due to the likely volatile atmospheric conditions surrounding a diesel spill, response options may be limited to hazing to ensure the safety of response personnel. The modelling undertaken predicts that no sensitive areas will be impacted thus it is unlikely that this technique would be required. Monitor and evaluate techniques will, however, be deployed from the outset of a spill to track the spill location and fate in real-time. Thus, in the event that wildlife are at risk of contamination, oiled wildlife response will be undertaken in accordance with the Wildlife Response Operational Plan as and where required. In addition, any rehabilitation could only be undertaken by trained specialists.	Yes	The modelling undertaken predicts that no sensitive areas will be impacted thus it is unlikely that this technique would be required. However, in the event that wildlife are at risk of contamination, oiled wildlife response will be undertaken as and where required.

5 HYDROCARBON SPILL ALARP PROCESS

Woodside's hydrocarbon spill ALARP process is aligned with guidance provided by NOPSEMA in *ALARP Guidance Note N-04300-GN0166* (2022) and *Oil Spill Risk Management Guidance Note N-04750-GN1488* (2024) and is set out in the 'Woodside Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) Guidelines'.

From the identified response planning need and pre-operational NEBA, Woodside conducts a structured, semi-quantitative hydrocarbon spill process which has the following steps:

- considers the Response Planning Need identified in terms of surface area (km^2) and available surface hydrocarbon volumes (m^3) against existing Woodside capability
- considers alternative, additional, and improved options for each response technique/control measure by providing an initial and, if required, detailed evaluation of:
    - predicted cost associated with adopting the control measure
    - predicted change/environmental benefit
    - predicted effectiveness/feasibility of the control measure.
- evaluates the risks and impacts of implementing the proposed response techniques, and any further control measures with associated environmental performance to manage these additional risks and impacts.

Woodside considers the risks and impacts from a hydrocarbon spill to have been reduced to ALARP when:

- a structured process for identifying and considering alternative, additional, and improved options has been completed for each selected response technique
- the analysis of alternate, additional, and improved control measures meets one of the following criteria:
    - all identified, reasonably practicable control measures have been adopted; or
    - no identified reasonably practicable additional, alternative and/or improved control measures would provide further overall increased proportionate environmental benefit; or
    - no reasonably practical additional, alternative, and/or improved control measures have been identified.
- where an alternative, additional and/or improved control measure is adopted, a measurable level of environmental performance has been assigned
- higher order impacts/ risks have received more comprehensive alternative, additional, and improved control measure evaluations and do not just compare the cost of the adopted control measures to the costs of an extreme or clearly unreasonable control measure
- cumulative effects have been analysed when considered in combination across the whole activity.

The response technique selection is based on the risk assessment conducted in the EP. The risk assessment identifies the type of oil, volume of release, duration of release, predicted fate, weathering and the EMBA (along with other requirements such as time to impact and predicted volumes ashore). Modelling is then used to inform the NEBA and the prioritisation of suitable response options. The scale of the response techniques selected in the pre-operational NEBA is informed through the assessment of results from deterministic modelling.

For the purpose of the ALARP assessment, the following terms and definitions have been used:

- response techniques are considered the control measures that reduce consequences from hydrocarbon spill events. The terms 'response technique' and 'control measure' are used interchangeably
- cost is defined as the time, effort and/or trouble taken in financial, safety, design/storage/installation, capital/lease, and/or operations/maintenance terms to adopt a control measure

- where the predicted change to environmental impact is compared against standard environmental values and sensitivities impacts using positive or negative criteria from the NEBA Impact Ranking Classification Guidance in Annex A.

5.1 Monitor and Evaluate

Monitor and evaluate techniques includes the gathering and evaluation of data to inform the oil spill response planning and operations. It includes fate and trajectory modelling, spill tracking, weather updates and field observations. This response option is deployed in some capacity for every event.

Techniques may include:

- Predictive modelling of hydrocarbons to assess resources at risk
- Surveillance and reconnaissance to detect hydrocarbons and resources at risk
- Pre-emptive assessment of sensitive receptors at risk

Woodside maintains an *Operational Monitoring Operational Plan*. If shoreline contact is predicted, Response Protection Areas (RPAs) will be identified and assessed before contact. If shorelines are contacted, a shoreline assessment survey (SCAT) will be completed to guide effective shoreline clean-up operations per arrangements detailed in Woodside's Operational and Scientific Monitoring Bridging Implementation Plan (OSM-BIP) (see Section 5.9). This plan includes the process for the CIMT to mobilise resources depending on the nature and scale of the spill.

The proximity of Dampier, Karratha, Port Hedland, Exmouth and Onslow to the spill event location means that multiple logistical options are available to monitor the spill in relatively short timeframes. The primary mobilisation base for initial monitoring activities would be Dampier. However, in the unlikely event of an extended spill with potential to impact receptors further afield, monitoring activities may also be mobilised from Onslow, Port Hedland or Exmouth.

5.1.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which a response need can be based:

- For MEE-01, floating surface oil in sufficient concentrations for commencement of effective monitor and evaluate activities (>10 g/m^2) is not expected at any RPA for the duration of a spill event. In open water, however, floating hydrocarbons may be present up to 39 km from the spill location. For MEE-05, floating oil at >10 g/m^2 is predicted at Glomar Shoal within 50 hours.
- The shortest timeframe that shoreline contact from floating oil is predicted is 7.2 days at Barrow Island (42 m^3) (MEE-05) and 19 days at Muiron Islands including MMA and WHA (9 m^3) (MEE-01).
- The time to contact for oil at concentrations of entrained hydrocarbons greater than 100 ppb is 1.8 days at Glomar Shoal (MEE-05) and 4.25 days at Rankin Bank (MEE-01).
- Arrangements for support organisations who provide specialist services or resources should be tested regularly.
- Plans, procedures and support documents need to be in place for Operational and Support Sections. These should be reviewed and updated regularly.
- The duration of the spill may extend up to 77 days with response operations extending to Month 4 (MEE-01) based on the predicted time to complete shoreline clean-up operations.

5.1.2 Environmental performance based on need

Table 5-1: Environmental Performance – Monitor and evaluate

Environmental Performance Outcome		To gather information from multiple sources to establish an accurate common operating picture as soon as possible and predict the fate and behaviour of the spill to validate planning assumptions and adjust response plans as appropriate to the scenario.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
1	Oil spill trajectory modelling	1.1	Initial modelling available within 6 hours using the Rapid Assessment Tool	1, 3B, 3C, 4
		1.2	Detailed modelling available within 4 hours of RPS receiving information from Woodside	
		1.3	Detailed modelling service available for the duration of the incident upon contract activation	
2	Tracking buoy	2.1	Tracking buoy located on facility/ lead vessel and ready for deployment 24/7	1, 3A, 3C, 4
		2.2	Deploy tracking buoy from facility/ lead vessel within 2 hours as per the First Strike Plan.	1, 3A, 3B, 4
		2.3	Contract in place with service provider to allow data from tracking buoy to be received 24/7 and processed.	1, 3B, 3C, 4
		2.4	Data received to be uploaded into Woodside common operating picture (COP) daily to improve the accuracy of other Monitor and Evaluate techniques.	1, 3B, 4
3	Satellite imagery	3.1	Contract in place with 3rd party provider to enable access and analysis of satellite imagery. Imagery source/type requested on activation of service.	1, 3C, 4
		3.2	3rd party provider will confirm availability of an initial acquisition within 2 hours	1, 3B, 3C, 4
		3.3	First image received with 24 hours of Woodside confirming to 3rd party provider its acceptance of the proposed acquisition plan.	1
		3.4	3rd party provider to submit report to Woodside per image. Report is to include a polygon of any possible or identified slick(s) with metadata.	1
		3.5	Data received to be uploaded into Woodside COP daily to improve accuracy of other monitor and evaluate techniques.	1, 3B, 4
		3.6	Satellite Imagery services available and employed during response	1, 3C, 4
4	Aerial surveillance	4.1	2 trained aerial observers available to be deployed by day 1 from resource pool.	1, 2, 3B, 3C, 4
		4.2	1 aircraft available for two sorties per day, available for the duration of the response from day 1	1, 3C, 4
		4.3	Observer to compile report during flight as per FSP. Observers report available to the IMT within 2 hours of landing after each sortie.	1, 2, 3B, 4
		4.4	Unmanned Aerial Vehicles/Systems (UAV/UASs) to support Shoreline Contamination Assessment Technique (SCAT), containment and recovery and surface dispersal and pre-emptive assessments as contingency if required.	1, 2
5	Pre-emptive assessment of	5.1	Within 2 days, in agreement with WA DTMI (for Level 2/3 incidents), deployment of 2 specialists from resource pool in establishing the status of sensitive receptors.	1, 2, 3B, 3C, 4

Environmental Performance Outcome		To gather information from multiple sources to establish an accurate common operating picture as soon as possible and predict the fate and behaviour of the spill to validate planning assumptions and adjust response plans as appropriate to the scenario.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
	sensitive receptors	5.2	Daily reports provided to IMT on the status of the receptors to prioritise Response Protection Areas (RPAs) and maximise effective utilisation of resources.	1, 3B, 4

The control measures and capability of Woodside and its third-party service providers are shown to support Monitor and evaluate activities up to and including the identified WCCS. This is demonstrated by the following:

- Woodside has a documented, structured and tested capability for monitor and evaluate operations including internal trajectory modelling capabilities, tracking buoys located offshore and contracted aerial observation platforms with access to trained observers.
- Woodside and its third-party service providers seek to maintain sufficient capability for the duration of the response.
- Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.1.

5.2 Source control and well intervention

The worst-case scenario identified for source control is considered to be a loss of well containment from LH3 well (MEE-01). This well has a vertical Xmas tree upon which a capping stack cannot be utilised due to incompatibility of connector sizes, inadequate load bearing capacity and/or, if the tree remains in place, some existing barriers may remain active. This scenario would result in an uncontrolled flow from the well as outlined in the EP. In the event of a complete break or separation of the tree, the primary response would be relief well drilling.

Woodside is a signatory to a MoU between Australian offshore operators to provide mutual aid to facilitate and expedite mobilising a MODU and drilling a relief well, if a loss of well containment incident were to occur. The MoU commits the signatories to share rigs, equipment, personnel and services to assist another operator in need. Dynamically positioned and most jack up rigs are not suitable for the Okha FPSO water depth, therefore a moored MODU would be required.

5.2.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which a response need can be based:

- Prior to any source control activities, Woodside will implement protocols to confirm that the site is safe including subsea ROV surveys and surface air monitoring.
- Hydrocarbons will flow from the well until one of the following interventions can be made:
  - Closure of the Tubing Retrievable Safety Valve (TRSV)
  - A relief well is drilled and first attempt at well kill within 77 days
- Arrangements for support organisations who provide specialist services or resources should be tested regularly.
- Plans, procedures and support documents need to be in place for Operational and Support Sections. These should be reviewed and updated regularly.
- The duration of the spill may extend up to 77 days with response operations extending up to Month 4 (MEE-01) based on the predicted time to complete shoreline clean-up operations.

In addition, a number of assumptions are required to estimate the response need for source control. These assumptions have been described in the table below.

Table 5-2: Response Planning Assumptions – Source Control

Response planning assumptions	
Safety considerations	Source control operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site, in accordance with the Woodside Management System (WMS). Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • high winds, waves and/or sea states • high ambient temperatures.
Feasibility considerations	Woodside's primary source control option would be ROV intervention followed by relief well drilling for the Okha FPSO Facility and its wells. The following approaches outline Woodside's hierarchy for relief well drilling; • Primary – Review internal drilling programs and MODU availability to source an appropriate rig operating within Australia with an approved Safety Case; • Alternate – Source and contract a MODU through AEP MOU that is operating within Australia with an approved Safety Case; • Contingency – Source and contract a MODU outside Australia with an approved Australian Safety Case

5.2.2 Environmental performance based on need

Table 5-3: Environmental Performance – Source Control

Environmental Performance Outcome		To stop the flow of hydrocarbons into the marine environment		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
6	Subsea First Response Toolkit (SFRT)	6.1	Oceaneering support staff available all year round, via contract, to assist with the mobilisation, deployment, and operation of the SFRT equipment.	1, 3B, 3C
		6.2	Intervention vessel with minimum requirement of a working class ROV and operator.	1, 3C
		6.3	Mobilised to site for deployment within 11 days.	1, 3B, 3C
		6.4	Open communication line to be maintained between IMT and infield operations to confirm awareness of progress against plan(s).	1, 3A, 3B
7	Well intervention	7.1	Frame agreements with ROV providers in place to be mobilised upon notification. ROV equipment deployed within 7 days.	1, 3B, 3C
		7.2	Source control vessel will have the following minimum specifications: • active heave compensated crane, rated to at least 150 T in shallower water and 250 T in deeper water. • at least 90 m in length • deck has water/electricity supply • deck capacity to hold at least 110 T of capping stack.	1, 3B, 3C
		7.3	Identify source control vessel availability within 24 hours and begin contracting process.	1, 3B, 3C
		7.4	Well intervention attempt made using ROV and SFRT within 11 days.	1, 3B, 3C
		7.5	Contract in place for access to equipment and staff to assist with the mobilisation, deployment, and operation of well intervention equipment.	1, 3B, 3C
		7.6	MODU mobilised to site for relief well drilling within 21 days.	1, 3C
		7.7	First well kill attempt completed within 77 days	1, 3B, 3C
		7.8	Open communication line(s) to be maintained between IMT and infield operations to confirm awareness of progress against plan(s).	1, 3A, 3B
		7.9	Monthly monitoring of the availability of MODUs through existing market intelligence including current Safety Case history.	3C
8	Support vessels	8.1	Access to 24/7 vessel tracking software to monitor availability of suitable vessels to meet specifications for source control.	3C
		8.2	Frame agreements for installation support vessels (ISVs) require vessels to maintain in-force safety case approvals covering ROV operations and provide support in the event of an emergency.	1, 3B, 3C
		8.3	MODU and vessel contracts include clause outlining requirement for support in the event of an emergency	1, 3C
9	Safety Case	9.1	Woodside will prioritise MODU or vessel(s) for intervention work(s) that have an existing safety case	1, 3C
		9.2	Woodside Planning, Logistics, and Safety Officers (on roster/Call 24/7) to assist in expediting the safety case assessment process as far as practicable.	1, 3C

Environmental Performance Outcome		To stop the flow of hydrocarbons into the marine environment		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
		9.3	Woodside will maintain minimum safe operating standards that can be provided to MODU and vessel operators for Safety Case guidance.	1, 3C

The resulting source control capability has been assessed against the WCCS. The range of techniques provide a feasible and viable approach to relief well drilling operations to stop the well flowing.

- The health and safety, financial, capital and operations/maintenance costs of implementing the alternative, additional or improved control measures identified and not carried forward are considered grossly disproportionate to the insignificant environmental benefit gained and/or not reasonably practicable for this PAP.
- Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.2.

5.3 Surface Dispersant Application

Surface dispersant application may reduce surface hydrocarbons and therefore prevent, or reduce the scale of, shoreline contact. Priority would be placed on treating high volume surface hydrocarbons closest to the release location as this is where high surface concentrations are predicted, and dispersant application is expected to achieve the greatest environmental benefit (refer to ANNEX A: Net Environmental Benefit Analysis detailed outcomes).

At certain times its use may not provide an environmental benefit, for example, during coral spawning seasons due to coral larvae being highly sensitivity to dispersants (Negri et al, 2018).

Surface dispersant application would only be permitted and/or appropriate where favourable metocean conditions are present and where the plume would be predicted to remain within the pre-defined Zone of Application (ZoA) illustrated in Figure 2-6. The ZoA is based on the following criteria:

- 10km from Commonwealth Marine Parks (excluding 'Multiple Use Zones')
- 10km from State Marine Parks
- 10km from Heritage List areas
- >20m water depth
- 4km from State Waters
- Within the Mainland Australian EEZ
- Avoiding sensitive reefs and shoals

Weathering of the hydrocarbons would reduce dispersant efficacy. In the event of an ongoing loss of well control, modelling predicts hydrocarbons reaching the surface may be heavily weathered or spread below effective response thresholds. Surface dispersant application is weather and sea–state dependent. Periods of downtime can be expected.

Where surface dispersant application is deemed appropriate, Woodside will conduct dispersant effectiveness monitoring in accordance with the Woodside OSM-BIP, Joint Industry OSM Framework (APPEA, 2021) and OMP: Surface chemical dispersant fate and effectiveness assessment (APPEA, 2021). This assessment is conducted after the initial shake jar test or aerial test spray and is based on the SMART protocol (NOAA, 2006).

The *Surface Dispersant Operational Plan* details the mobilisation and resource requirements for dispersant operations including the logistics, support and facility arrangements to manage the movement of personnel and resources.

5.3.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which response need is based for the vessel cargo tank rupture scenario (MEE-05):

- Based on deterministic modelling for MEE-05, surface hydrocarbons above minimum threshold concentration (>50 g/m^2) and viscosity parameters (<10,000 cSt) for feasible surface dispersant application are predicted as follows:
  - 9 km^2 (2,251 m^3) on day 1
  - 15 km^2 (1,633 m^3) on day 2
  - 14 km^2 (1,261 m^3) on day 3
  - No floating hydrocarbons at response thresholds are predicted beyond day 3.
- There is no surface oil predicted at the required minimum thresholds for feasible surface dispersant application for MEE-01.
- The duration of the spill may extend up to 24 hours with response operations extending to 2 months based on the predicted time to complete shoreline clean-up operations.
- Arrangements for support organisations who provide specialist services (dispersant spray aircraft, logistics services for mobilising dispersant and Air Attack Supervisors) or resources (dispersants and transfer pumping systems) and should be tested regularly.

- Plans, procedures and support documents need to be in place for Operational and Support Sections. These should be reviewed and updated regularly.
- Defined Zone of Application (ZoA) to reduce environmental consequences on subsea receptors (see Figure 2-6).

In addition, a number of assumptions are required to estimate the response need for Surface Dispersant Application. These assumptions have been described in the table below.

Table 5-4: Response Planning Assumptions – Surface Dispersant Application

Response Planning Assumptions		
Safety considerations	Surface dispersant operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • high winds, waves and/or sea states • high ambient temperatures.	
Technique	**Application parameters [6]**	
Surface Dispersant Application (combined vessel and aircraft)	Lower	2% (1:25 DOR x 16% effectiveness x 50% encounter rate)
	Upper	12% (1:20 DOR x 84% effectiveness x 75% encounter rate)
	The predicted performance range for surface dispersant application is based on; • remaining surface oil available for surface dispersant application following weathering, • operational monitoring observing surface oil at minimum BAOAC 4 (discontinuous true oil colour) or BAOAC 5 (continuous true oil colour), • safe for deployment, within range of vessels and aircraft, • dispersant to oil application at 1:20-1:25 (based on uniform surface oil 100 g/m^2 and 50 litres/hectare application rate) allows for 3-4 km^2 per aircraft per day, • predicted dispersant effectiveness of 16-84% for contacted surface oil, and spraying encounter rate of approximately 50-75% (50-25% of dispersant sprayed does not contact surface oil)	
Physical properties	Surface threshold: • Lower – 50 g/m^2 (equates to 100 g/m^2 with approximately 50% coverage and/or 200 g/m^2 with approximately 25% coverage) • BAOAC 4 – Discontinuous true oil colour – lower threshold 50 g/m^2 • Optimum – 100 g/m^2 (equates to >100 g/m^2 with approximately 100% coverage and/or 200 g/m^2 with approximately 50% coverage) • BAOAC 5 – Continuous true oil colour – lower threshold 200 g/m^2 Viscosity: • Optimum – <5,000 cSt at sea surface temperature • Upper – 10,000 cSt at sea surface temperature	
Dispersant Effectiveness	Dispersant testing on Cossack Light Crude indicates that average dispersant efficiency (%) for oil age will be; • ~45% (0 hours) • ~84% (<12 hrs) • ~16% (48-96 hrs) This data is based on a range of weathering results and five National Plan Oil Spill Cleaning Agent (OSCA) approved dispersants that will be the most likely dispersant used by Woodside.	

[6] Performance ranges outlined are indicative for response planning purposes. Where actual figures and concentrations exist based on deterministic modelling or laboratory results, these will be used for response and capability planning.

5.3.2 Environmental performance based on need

Table 5-5: Environmental Performance - Surface Dispersant Application

Environmental Performance Outcome		To reduce consequences to surface and shoreline receptors and increase the bioavailability of hydrocarbons for microbial breakdown.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
10	Aerial spraying	10.1	One aircraft with minimum payload of 1850 litre payload mobilised to site within 4 hours of activation. One additional aircraft mobilised to site within another 20 hours of activation. Two additional aircraft mobilised to site within 48 hours of activation.	1, 3B, 3C, 4
		10.2	One high-capacity aircraft with minimum payload of 10 m^3 available to spray within 48 hours.	
		10.3	FWADC to complete a minimum of 3 sorties per day and high-capacity aircraft to complete a minimum of 2 sorties per day	1
		10.4	Per sortie spray log completed to record where dispersants were applied	1, 3A, 3B
11	Vessel spraying	11.1	Two offtake support vessels from integrated fleet will undertake dispersant trials within 48 hours of the release as per first strike plan.	1, 3A, 3B, 3C, 4
		11.2	Two offtake support vessels will be available for deployment to spray dispersant for the duration of the response.	3A, 3C, 4
		11.3	Up to 4 vessels spraying per day by day 5	1, 3C
		11.4	Per day spray log completed to record where dispersants were applied	1, 3A, 3B
12	Dispersant	12.1	Year-round access to 5000 m^3 of dispersant located globally which is ready to be mobilised on activation of GDS membership within 24-48 hours.	1, 3A, 3B, 3C, 4
		12.2	Year-round access to additional dispersant stockpiles via memberships with OSRL and AMOSC.	
13	Management of Environmental Risks	13.1	Surface dispersants will only be applied in the Zone of Application and on BAOAC 4 and 5 oil.	1
		13.2	OSCA approved dispersants will be prioritised for use	
		13.3	Surface dispersant efficacy monitoring will be conducted in accordance with the Woodside OSM-BIP and OM4: Dispersant Effectiveness and Fate Assessment (APPEA, 2021)	1, 3A, 3B, 3C

The resulting surface dispersant response capability following ALARP evaluation has been assessed against the WCCS and surface release scenario.

- Surface concentration, viscosity and mass vary for each time step based on spreading and weathering algorithms from the deterministic modelling results. Woodside has reviewed the deterministic modelling data based to determine the Response Need and required capability for surface dispersant application as a response technique.
- Deterministic modelling for MEE-05 predicts that there will be surface hydrocarbon present at feasible response thresholds (surface volume peaks at 2,251 m^3 on Day 1 and surface area peaks at 15 km^2 on Day 2) of floating hydrocarbons for surface dispersant to treat.
- Within 24 hours, Woodside has available 1-2 FWADC aircraft capable of dispersing 28 m^3 to 112 m^3 surface oil covering 3 km^2 to 8 km^2, plus 1 surface dispersant application vessel capable of dispersing 36 m^3 to 72 m^3 oil covering an area of ~1 km^2. Within 48 hours, Woodside has access to 2-4 FWADC and 1 high-capacity aircraft per day for the duration of the spill with a capability of dispersing 67 m^3 to

1414 m^3 surface oil covering 6 km^2 to 20 km^2 per day. Further to this, surface dispersant vessel availability increases to 2 by day 2, 4 by day 3 and 6 by day 6. Each vessel is capable of dispersing 36 m^3 to 72 m^3 oil covering an area of ~1 km^2 per day. For the capability available, this is therefore estimated to be 142 m^3 to 840 m^3 covering 4 km^2 to 6 km^2 by day 6.

- As described above and in Table 4-2, surface dispersant application is not predicted to be feasible beyond day 3 for MEE-05. If ongoing dispersant operations were required and feasible, details of capability from week 2 to month 3 are included in Section 6.3.
- Surface dispersant application would target the thickest parts (BAOAC 4-5) at the leading edge of the surface slick and as close to the spill source as is feasible. This approach aims to mitigate the spread of the oil and maximise dispersant effectiveness thus reducing shoreline accumulations.
- At times, the capability will be limited by safety or logistics including number of airframes permitted in the airspace simultaneously.
- More detail regarding capability need is included at Section 6.3 together with consideration of potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.3.

5.4 Containment and Recovery

Containment and recover is used to reduce damage to sensitive resources by the physical containment and mechanical removal of hydrocarbons from the marine environment. It has a lower capacity for removing surface oil than the application of dispersant but avoids potential additional impacts created by the resulting increase in entrained hydrocarbons in the water column.

Weathering and spreading of hydrocarbons will significantly reduce containment and recovery effectiveness. In the event of an ongoing loss of well control, modelling predicts fresh hydrocarbons reaching the surface may be heavily weathered and present in small discrete patches. Containment and Recovery is also weather and sea–state dependent. Periods of downtime can be expected.

The average annual conditions in the vicinity of the Okha FPSO are expected to exceed wind speeds equivalent to Beaufort Sea-state 3-4 (wind speed 4.7 m/s to 7.5 m/s) with maximum windspeeds of Beaufort Sea-state 6-10 (wind speed 12.4 m/s to 25.5 m/s) (RPS, 2019). Therefore, it is expected that open water containment and recovery operations would not, in general, be an effective response technique. However, Containment and Recovery may be available for nearshore and/or when the weather window permits and priority would be given to being prepared to deploy units if the conditions are met.

The *Containment and Recovery Operational Plan* details the mobilisation and resource requirements for response operations including the logistics, support and facility arrangements to manage the movement of personnel and resources.

5.4.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which response need is based:

- Based on deterministic modelling for MEE-05, surface hydrocarbons above minimum threshold concentration (>50 g/m^2) for feasible containment and recovery operations are predicted as follows:
  - 9 km^2 (2,251 m^3) on day 1
  - 15 km^2 (1,633 m^3) on day 2
  - 14 km^2 (1,261 m^3) on day 3
  - No floating hydrocarbons at response thresholds are predicted beyond day 3.
- There is no surface oil predicted at the required minimum thresholds for feasible containment and recovery operations for MEE-01.
- The duration of the spill may be up to 24 hours with offshore response operations extending to 3 days (when surface hydrocarbons fall below recoverable threshold concentrations) and shoreline response operations extending to Month 2 based on the predicted time to complete shoreline clean-up operations.
- Arrangements for support organisations who provide specialist services (logistics services for mobilising equipment, trained Offshore Supervisors and waste disposal) and/or resources (vessels, containment and recovery equipment, transfer pumping systems) should be tested regularly.
- Plans, procedures and support documents need to be in place for Operational and Support functions. These should be reviewed and updated regularly.

In addition, a number of assumptions are required to estimate the response need for Containment and Recovery. These assumptions have been described in the table below.

Table 5-6: Response Planning Assumptions – Containment and Recovery

Response Planning Assumptions		
Safety considerations	Containment and recovery operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • high winds, waves and/or sea states • high ambient temperatures.	
Technique	**Predicted performance range** (% of surface oil volume available predicted to be recovered by response technique)	
Containment and recovery	Lower	5%
	Upper	10%
	The predicted performance range for containment and recovery is based on; • remaining surface oil available for containment and recovery following weathering • monitor and evaluate operations observing surface oil at minimum BAOAC 4 (discontinuous true oil colour) or BAOAC 5 (continuous true oil colour) • safe for deployment, within range of vessels and aircraft • encounter rate of approximately 50-75% (50-25% of surface coverage is not surface oil)	
Response Capability details		
Containment and recovery operation	One containment and recovery operation includes; • 2 x suitable vessels (vessel specifications as per Marine Operations Plan) • 1 x boom system (min 800 mm overall height and approximately 200 m length) with all required ancillaries) or • 1 x suitable vessel (vessel specifications as per Marine Operations Plan) • 1 x single ship system (min 800 mm overall height and approximately 200 m length) with all required ancillaries) and • 1 x skimmer (min 20 m^3/hr) with all required ancillaries • Temporary storage (min 100 m^3) • 1-2 x trained supervisor per operation • 8-10 x support personnel per operation	
Physical properties	Surface Threshold • Lower – 50 g/m^2 (equates to 100 g/m^2 with approximately 50% coverage and/or 200 g/m^2 with approximately 25% coverage) – BAOAC 4 – discontinuous true oil colour – lower threshold 50 g/m^2 • Optimum – 100 g/m^2 (equates to >100 g/m^2 with approximately 100% coverage and/or 200 g/m^2 with approximately 50% coverage) – BAOAC 5 – Continuous true oil colour – lower threshold 200 g/m^2	
Expected effectiveness	• One containment and recovery operation is expected to be able to contain and recover approximately 22.5-67.5 m^3 per day (10 hr operation) includes one (1) change out of temporary waste storage equipment (if required) • Based on the following assumptions: – boom system with 70 m opening = 0.07 km – vessel moving at 0.7 kn = 1.3 km/h – area covered per hour = 0.07 km x 1.3 km = 0.09 km^2 – area covered per day (lower) = 0.09 km^2 x 5 hours = 0.45 km^2 / day – area covered per day (upper) = 0.09 km^2 x 10 hours = 0.9 km^2 / day – recovery per day (lower) = 0.45 km^2 x 50 g/m^2 x 50% coverage = 11.25 m^3/ 5-hour day – recovery per day (upper) = 0.9 km^2 x 100 g/m^2 x 75% = 67.5 m^3/ 10-hour day Increased surface oil concentration may result in increased recovery capacity providing other conditions and oil properties remain suitable for containment and recovery. For planning purposes, conservative concentrations outlined above have been used.	

5.4.2 Environmental performance based on need

Table 5-7: Environmental Performance – Containment and Recovery

Environmental Performance Outcome		To reduce consequences to surface and shoreline receptors.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
14	Vessel-based recovery systems	14.1	Woodside maintains an integrated fleet of vessels, including vessels with at least 10 t bollard pull. Additional vessels can be sourced through existing contracts/frame agreements	1, 3A, 3B, 3C, 4
		14.2	2 containment and recovery operations would be deployed by day 2.	
		14.3	2 additional containment and recovery operations using 3rd party provider resources would be deployed by day 4	
		14.4	Each operation will have internal or added 100m^3 of liquid waste storage onboard.	
15	Response teams	15.1	Deployment of 2 containment and recovery teams would be available by day 2 and 4 containment and recovery teams available by day 4.	1, 2, 3A, 3B, 3C, 4
		15.2	Deployment team will be comprised of: • 1-2 trained specialists per operation • 8-10 personnel for support • Personnel sourced through resource pool	1, 2, 3B, 4
		15.3	Teams will segregate liquid and solid wastes at the earliest opportunity.	
		15.4	Open communication line to be maintained between IMT and infield operations to ensure awareness of progress against plan(s)	1, 3A, 3B
16	Response systems	16.1	Rapid sweep systems and active boom systems to be prioritised for mobilisation in the event of a response.	1, 3C
17	Management of Environmental Impact of the response risks	17.1	The boom will be monitored and maintained to ensure trapped fauna are released as early as possible, with Containment and Recovery activities occurring in daylight hours only.	1
		17.2	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified	
		17.3	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines	

Woodside has assessed the resulting containment and recovery capability against the WCCS and surface release scenario.

- Surface concentration and mass vary for each time step based on spreading and weathering algorithms within the model. Woodside has reviewed the deterministic modelling data based on the response planning assumptions outlined above to determine the response need and required capability.
- For the surface vessel cargo tank rupture scenario (MEE-05), deterministic modelling predicts that there will be surface hydrocarbons present at feasible response thresholds for containment and recovery – surface volume peaks at 2,251 m^3 on Day 1 and surface area peaks at 15 km^2 on Day 2. No floating hydrocarbons at response thresholds are predicted beyond day 3.
- Within 24 hours, Woodside has available 1 containment and recovery operation capable of recovering up to 68 m^3 surface oil covering an area of 1 km^2. Availability of containment and recovery operations

increases to 2 by day 2, 3 by day 3, 4 by day 4, and 6 by day 5. Thus, by day 5, the recovery capacity is estimated to be up to 405 m^3 covering 6 km^2. From week 2, Woodside would expect 42-58 vessel-units to be operating offshore. These vessels could cover approximately 42-58 km^2 and recover 473 m^3 to 3915 m^3 of surface oil per week.

- The efficiency of this response technique will decrease significantly as the slick moves, breaks into wind-rows and weathers resulting in less surface concentrations available for effective offshore recovery. From day 3, surface concentrations are predicted to be below thresholds for effective offshore response for the vessel cargo tank rupture (MEE-05) scenario.
- Containment and recovery operations would target the thickest parts (BAOAC 4-5) at the leading edge of the surface slick and as close to the spill source as is feasible. This approach aims to mitigate the spread of the oil and maximise encounter rate in order to reduce potential shoreline accumulations.
- At times, the capability will be limited by safety or logistics including number of available vessels and/or maintenance of feasible safe simultaneous operations (SIMOPS)
- More detail regarding capability need is included at Section 6.4 together with consideration of potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.4.

5.5 Shoreline Protection and Deflection

The placement of containment, protection or deflection booms on and near a shoreline is a response technique to reduce the potential volume of hydrocarbons contacting or spreading along shorelines, which may reduce the scale of shoreline clean-up. Hydrocarbons contained by the booms would be collected where practicable.

Shorelines would be protected where accessible via vessel or shore. Where hydrocarbon contact has already occurred, there may still be value in deploying protection equipment to limit further accumulations and preventing remobilisation of stranded hydrocarbons.

Shoreline protection and deflection equipment would be mobilised to selected locations, where the following conditions were met:

- Sea-states and hydrocarbon characteristics are safe to deploy protection and deflection measures,
- Oil trajectory has been identified as heading towards identified RPAs.

5.5.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which the response need can be based:

Okha FPSO Facility Operations loss of well containment (MEE-01)

- The shortest timeframe that shoreline contact from floating oil above threshold is predicted to be 19.7 days at Muiron Islands including MMA and WHA (9 m^3).
- Pre-emptive assessment and shoreline assessments will be mobilised prior to shoreline contact at 100 g/m^2, which occurs on day 19.7 at Muiron Island including MMA and WHA with concentrations exceeding 100 g/m^2 within the region.
- The duration of the spill may be up to 77 days with shoreline response operations extending to Month 4 based on the predicted time to complete shoreline clean-up operations.

Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05)

- The shortest timeframe that shoreline contact from floating oil is predicted to be 7.2 days at Barrow Island (42 m^3).
- Pre-emptive assessment and shoreline assessments will be mobilised prior to shoreline contact at 100 g/m^2, which occurs on day 7.2 at Barrow Island with concentrations exceeding 100 g/m^2 within the region.
- The duration of the spill may be up to 24 hours with response operations extending up to Month 2 based on the predicted time to complete shoreline clean-up operations.

All scenarios

- Arrangements for support organisations who provide specialist services (trained personnel, protection and deflection equipment) and/or resources and should be tested regularly.
- Tactical Response Plans (TRPs) for Response Protection Areas (RPAs) along with other relevant plans, procedures and support documents need to be in place for Operational and Support Sections. These should be reviewed and updated regularly.

In addition, a number of assumptions are required to estimate the response need for Shoreline Protection and Deflection. These assumptions have been described in the table below.

Table 5-8: Response Planning Assumptions – Shoreline Protection and Deflection

Response Planning Assumptions	
Safety considerations	Shoreline protection and deflection operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • safe for deployment and conditions within range of vessels • high ambient temperatures.
Shoreline Protection and Deflection	One Shoreline Protection and Deflection operation may include; • Quantity of shoreline sealing boom (as outlined in TRP) • Quantity of fence or curtain boom (as outlined in TRP) • 1-2 trained supervisors • 8-10 personnel/ labour hire Specific details of each operation would be tailored to the Tactical Response Plan implemented (where available).

5.5.2 Environmental performance based on need

Table 5-9: Environmental Performance – Shoreline protection and deflection

Environmental Performance Outcome		To stop hydrocarbons encountering particularly sensitive areas		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
18	Response teams	18.1	In liaison with WA DTMI (for Level 2/3 incidents), relevant Tactical Response Plans (TRPs) will be identified in the First Strike plan for activation within 24 hours of the release.	1, 3A, 3C, 4
		18.2	In liaison with WA DTMI (for Level 2/3 incidents), mobilise teams to RPAs within 48 hours of operational monitoring predicting Impacts. Teams to contaminated RPAs comprised of: • 1-2 trained specialists per operation • 8-10 personnel/labour hire • Personnel sourced through resource pool.	1, 2, 3B, 3C, 4
		18.3	In liaison with WA DTMI (for Level 2/3 incidents), 1 operation mobilised within 48 hours to each identified RPA. Expected to be 3 RPAs within 14 days. (operation as detailed above)	1, 3A, 3B, 4
		18.4	12 trained personnel within 24 hours sourced through resource pool.	1, 2, 3A, 3B, 3C, 4
		18.5	Open communication line to be maintained between IMT and infield operations to confirm awareness of progress against plan(s)	1, 3A, 3B
		18.6	The safety of shoreline response operations will be considered and appropriately managed. During shoreline operations: • All personnel in a response will receive an operational/safety briefing before commencing operations • Gas monitoring and site entry protocols will be used to assess safety of an operational area before allowing access to response personnel	1, 3B, 4
19	Response equipment	19.1	Equipment mobilised from closest stockpile within 48 hours prior to a predicted impact.	1, 3A, 3C, 4
		19.2	Supplementary equipment mobilised from AMOSC and State stockpiles within 48 hours prior to a predicted impact.	1, 3C, 4
		19.3	Supplementary equipment mobilised from OSRL within 72 hours prior to a predicted impact.	
		19.4	Woodside maintains integrated fleet of vessels. Additional vessels can be sourced through existing contracts/frame agreements	1, 3A, 3C, 4
20	Management of Environmental Impact of the response risks	20.1	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified	1
		20.2	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines	

The resulting shoreline protection and deflection capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to shoreline protection and deflection at identified RPAs.

Under optimal conditions, during the subsea and surface releases the capability available exceeds the need identified. It indicates that, the shoreline protection and deflection capability have the following expected performance:

- Deterministic modelling scenarios indicate that first shoreline impact at Barrow Island within 7.2 days (MEE-05) and Muiron Islands including MMA and WHA within 19.7 days (MEE-01).
- Existing capability allows for mobilisation and deployment of shoreline protection operations from Day 1 (if required). Given shoreline contact at RPAs is not predicted until Day 7.2 at Barrow Island (MEE-

05), by which time Woodside has access to 15-20 teams, the existing capability is considered sufficient to mobilise and deploy protection at RPAs prior to hydrocarbon contact, guided by the ongoing operational monitoring.

- Additional capability availability information from week 2 through to month 4 is detailed in Section 6.5
- The most significant constraint on expanding the scale of response operations is the availability of accommodation and transport services in the region between Exmouth and Port Hedland, and the management of response generated waste. From previous assessment of accommodation in this region, Woodside estimates that current accommodation can cater for a range of 500-700 personnel per day for an ongoing operation. TRPs have been developed for all identified RPAs except in international locations.
- More detail regarding capability need is included at Section 6.5 together with consideration of potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.5.

5.6 Shoreline Clean-up

Shoreline clean-up may be undertaken using a broad range of techniques when floating hydrocarbons contact shorelines. The timing, location and extent of shoreline clean-up activities can vary from one scenario to another, depending on the hydrocarbon type, sensitivities and values contacted, shoreline type and access, degree of oiling, and area oiled.

Shoreline clean-up is typically undertaken as a three-phase process:

- phase one (gross contamination removal) involving the collection of bulk oil, either floating against the shoreline or stranded on it
- phase two (moderate to heavy contamination removal) involving removal or in-situ treatment of shoreline substrates such as sand or pebble beaches, and
- phase three (final treatment or polishing) involving removal of the remaining residues of oil.

As phase one typically involves recovery of floating and pooled oil, and phase three removes minor volumes, they have not been considered in the assessment of response need for the scenarios identified.

The *Shoreline Clean-up Operational Plan* details the mobilisation and resource requirements for a shoreline clean-up operation including the logistics, support and facility arrangements to manage the movement of personnel and resources.

The *Shoreline Clean-up Operational Plan* includes the process for the IMT to mobilise resources depending on the nature and scale of the spill. Woodside would activate and mobilise trained and competent personnel in shoreline assessment before or following shoreline contact at response thresholds.

Shoreline clean-up consists of different manual and mechanical recovery techniques to remove hydrocarbons and contaminated debris from a shoreline; this is to minimise ongoing environmental contamination and impact. The National Plan also provides guidance on shoreline clean-up techniques as outlined in National Plan Guidance *Response assessment and termination of cleaning for oil contaminated foreshores* (AMSA 2015).

5.6.1 Response need based on predicted consequence parameters

The following statements identify the key parameters upon which the response need can be based:

Okha FPSO Facility Operations loss of well containment (MEE-01)

- The shortest timeframe that shoreline contact from floating oil above threshold is predicted to be 19.7 days at Muiron Islands including MMA and WHA (9 m^3) with shoreline accumulation of approximately 11 m^3 in Week 3 and peaking at 79 m^3 in Month 2.
- The duration of the spill may extend up to 77 days with shoreline response operations extending to Month 4 based on the predicted time to complete shoreline clean-up operations.

Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05)

- The shortest timeframe that shoreline contact from floating oil is predicted to be 7.2 days at Barrow Island (42 m^3) with shoreline accumulation peaking at approximately 169 m^3 in Week 2.
- The duration of the spill may be up to 24 hours with response operations extending up to Month 2 based on the predicted time to complete shoreline clean-up operations.

All scenarios

- Pre-emptive assessment and shoreline assessments will be mobilised prior to shoreline contact.
- Following Shoreline Assessment and agreement of prioritisation with WA Department of Transport and Major Infrastructure, clean-up operations would commence until agreed termination criteria are reached.
- Arrangements for support organisations who provide specialist services (trained personnel, labour hire, shoreline clean-up, and site management equipment) and/or resources and should be tested regularly.

- Tactical Response Plans (TRPs) for Response Protection Areas (RPAs) along with other relevant plans, procedures and support documents should be in developed and in place for Operational and Support Sections. These should be reviewed and updated regularly.

In addition, a number of assumptions are required to estimate the response need for shoreline clean-up. These assumptions have been described in the table below.

Table 5-10: Response Planning Assumptions – Shoreline Clean-up

Response planning assumptions: Shoreline clean-up	
Safety considerations	Shoreline clean-up operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • waves and/or sea states, tidal cycle and intertidal zone limits • presence of wildlife • high ambient temperatures.
Manual shoreline clean-up operation (Phase 2)	One, manual shoreline clean-up operation (Phase 2) may include: • 1–2 x trained supervisor • 8–10 x personnel/ labour hire • Supporting equipment for manual clean-up including rakes, shovels, plastic bags etc.
Physical properties	Surface Threshold • Lower – 100 g/m^2–100% coverage of ‘stain’ – cannot be scratched off easily on coarse sediments or bedrock – Expected trigger to undertake detailed shoreline survey • Optimum – 250 g/m^2 – 25% coverage of ‘coat’ – can be scratched off with a fingernail on coarse sediments – Expected trigger to commence clean-up operations
Efficiency **(m^3 oil recovered per person per day)**	Manual shoreline clean-up (Phase 2) – approximately 0.25–1 m^3 oil recovered per person per 10-hour day is based on moderate to high coverage of oil (100 g/m^2–1000 g/m^2) with manual removal using shovels/rakes, etc. from studies of previous response operations and exercises

Table 5-11: Shoreline Clean-up techniques and recommendations

Technique	Description	Shoreline type		Application
		Recommended	Not recommended	
Natural recovery	Allowing shoreline to self-clean; no intervention undertaken.	Remote and inaccessible shorelines for personnel, vehicles and machinery. Other clean-up techniques may cause more damage than allowing the shoreline to naturally recover. Natural recovery may be recommended for areas with mangroves and coral reefs due to their sensitivity to disturbance from other shoreline clean-up techniques. High-energy shorelines: where natural removal rates are high, and hydrocarbons will be removed over a short timeframe.	Low-energy shorelines: these areas tend to be where hydrocarbon accumulates and penetrates soil and substrates.	May be employed, if the operational NEBA identifies that other clean-up techniques will have a negligible or negative environmental impact on the shoreline. May also be used for buried or reworked hydrocarbons where other techniques may not recover these.
Manual recovery	Use of manpower to collect hydrocarbons from the shoreline. Use of this form of clean-up is based on type of shoreline.	Remote and inaccessible shorelines for vehicles and machinery. Areas where shorelines may not be accessible by vehicles or machinery and personnel can recover hydrocarbons manually. Where hydrocarbons have formed semi-solid to solid masses that can be picked up manually. Areas where nesting and breeding fauna cannot or should not be disturbed.	Coral reef or other sensitive intertidal habitats, as the presence of a response may cause more environmental damage then allowing them to recover naturally. For some high-energy shorelines such as cliffs and sea walls, manual recovery may not be recommended as it may pose a safety threat to responders.	May be used for sandy shorelines. Buried hydrocarbons may be recovered using shovels into small carry waste bags, but where possible the shoreline should be left to naturally recover to prevent any further burying of hydrocarbons (from general clean-up activities).

Technique	Description	Shoreline type		Application
		Recommended	Not recommended	
Sorbents	Sorbent boom or pads used to recover fluid or sticky hydrocarbons. Can also be used after manual clean-up to remove any residues from crevices or from vegetation.	When hydrocarbons are free-floating close to shore or stranded onshore. As a secondary treatment method after hydrocarbon removal and in sensitive areas where access is restricted.	Access for deploying and retrieving sorbents should not be through soft or sensitive habitats or affect wildlife.	Used for rocky shorelines. Sorbent boom will allow for deployment from small shallow draught vessels, which will allow deployment close to shore where water is sheltered and to aid recovery. Sorbents will create more solid waste compared with manual clean-up, so will be limited to cleaning rocky shorelines.
Vacuum recovery, flushing, washing	The use of high volumes of low-pressure water, pumping and/or vacuuming to remove floating hydrocarbons accumulated at shorelines.	Suited to rocky or pebble shores where flushing can remobilise hydrocarbons (to be broken up) and aid natural recovery. Any accessible shoreline type from land or water. May be mounted on barges for water-based operations, on trucks driven to the recovery area, or hand-carried to remote sites. Flushing and vacuum may be useful for rocky substrate. Medium- to high-energy shorelines where natural removal rates are moderate to high. Where flushed hydrocarbons can be recovered to prevent further oiling of shorelines.	Areas of pooled light, fresh hydrocarbons may not be recoverable via vacuum due to fire and explosion risks. Shorelines with limited access. Flushing and washing not recommended for loose sediments. High-energy shorelines where access is restricted.	High volume low pressure (HVLP) flushing and washing into a sorbent boom could be used for rocky substrate, if protection booming has been unsuccessful in deflecting hydrocarbons from these areas.
Sediment reworking	Movement of sediment to surf to allow hydrocarbons to be removed from the sediment and move sand via heavy machinery.	When hydrocarbons have penetrated below the surface. Recommended for pebble/cobble shoreline types. Medium- to high-energy shorelines where natural removal rates are moderate to high.	Low-energy shorelines as the movement of substrate will not accelerate the natural cleaning process. Areas used by fauna which could potentially be affected by remobilised hydrocarbons.	Use of wave action to clean sediment: appropriate for sandy beaches where light machinery is accessible.

Technique	Description	Shoreline type		Application
		Recommended	Not recommended	
Vegetation cutting	Cutting vegetation to prevent oiling and reduce volume of waste and debris.	Vegetation cutting may be recommended to reduce the potential for wildlife being oiled. Where oiling is restricted to fringing vegetation.	Access in bird-nesting areas should be restricted during nesting seasons. Areas of slow-growing vegetation.	May be used on shorelines where vegetation can be safely cleared to reduce oiling.
Cleaning agents (OSCA)	Application of chemicals such as dispersants to remove hydrocarbons.	May be used for manmade structures and where public safety may be a concern.	Natural substrates and in low-energy environments where sufficient mixing energy is not present.	Not recommended for shorelines. Could be used for manmade structures such as boat ramps.

5.6.2 Environmental performance based on need

Table 5-12: Environmental Performance – Shoreline Clean-up

Environmental Performance Outcome		To remove bulk and stranded hydrocarbons from shorelines and facilitate shoreline amenity habitat recovery.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
21	Shoreline responders	21.1	In liaison with WA DTMI (for Level 2/3 incidents), deployment of 1 shoreline clean-up team to contaminated RPAs comprised of: • 1-2 trained specialists per operation • 8-10 personnel/labour hire • Personnel sourced through resource pool within XX hours of request from the IMT.	1, 2, 3A, 3B, 3C, 4
		21.2	Relevant Tactical Response Plans (TRPs) will be identified in the first strike plan for activation within 48 hours of monitor and evaluate predicting impacts.	1, 3A, 3C, 4
		21.3	Clean-up operations for shorelines in line with results and recommendations from SCAT outputs	1, 3A, 3B
		21.4	All shoreline clean-up sites will be zoned and marked before clean-up operations commence to prevent secondary contamination and minimise the mixing of clean and oiled sediment and shoreline substrates.	
		21.5	In liaison with WA DTMI (for Level 2/3 incidents), mobilise and deploy up to 1 shoreline clean-up operation by day 7 (MEE-05).	1, 2, 3A, 3C, 4
		21.6	In liaison with WA DTMI (for Level 2/3 incidents), mobilise and deploy up to 6 shoreline clean-up operations by Week 7 (MEE-01).	
		21.7	The safety of shoreline response operations will be considered and appropriately managed. During shoreline clean-up operations: • All personnel in a response will receive an operational/safety briefing before commencing operations • Gas monitoring and site entry protocols will be used to assess safety of an operational area before allowing access to response personnel	1, 3B, 4
		21.8	Open communication line to be maintained between IMT and infield operations to ensure awareness of progress against plan(s)	1, 3A, 3B
22	Shoreline clean up equipment	22.1	Contract in place with 3rd party providers to access equipment.	1, 3A, 3C, 4
		22.2	Equipment mobilised from closest stockpile within 48 hours.	
		22.3	Supplementary equipment mobilised from AMOSC and State stockpiles within 48 hours.	1, 3C, 4
		22.4	Supplementary equipment mobilised from OSRL within 72 hours.	
23	Management of Environmental Impact of the response risks	23.1	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified	1

Environmental Performance Outcome		To remove bulk and stranded hydrocarbons from shorelines and facilitate shoreline amenity habitat recovery.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
		23.2	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines	
		23.3	Vehicular access will be restricted on dunes, turtle nesting beaches an in mangroves	
		23.4	Removal of vegetation will be limited to moderately or heavily oiled vegetation	
		23.5	Shoreline access routes (foot, car, vessel and helicopter) with the least environmental impact identified will be selected by a specialist in SCAT operations.	
		23.6	Oversight by trained personnel who are aware of the risks	
		23.7	Trained unit leader's brief personnel of the risks prior to operations.	

The resulting shoreline clean-up capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to shoreline clean-up at identified RPAs. Woodside's capability can cover all required shoreline clean-up operations for the PAP.

The capability available meets the need identified for this activity. The shoreline clean-up capability has the following expected performance (if required during a response):

- Existing capability allows for mobilisation and deployment of shoreline protection operations from Day 1 (if required). Shoreline contact at RPAs is not predicted until Day 7 at Barrow Island (MEE-05), by which time Woodside has access to 15-20 operations, comprising its team of trained response personnel from Karratha (the 'Burrup Response Team'), AMOSC, AMOSC Core Group, OSRL together with Woodside's personnel/ labour hire contract, and appropriate shoreline response equipment.
- The response to the identified scenarios is predicted to be completed by Month 2 (MEE-05) and Month 4 (MEE-01). Additional capability availability information from week 2 through to month 4 is detailed in Section 6.6
- Woodside has considered deployment of additional personnel to undertake shoreline clean-up operations but is satisfied that the identified level of resource is balanced between cost, time and effectiveness. The most significant constraint on expanding the scale of response operations is the availability of accommodation and transport services in the region between Exmouth to Port Hedland and management of response generated waste. From previous assessment of accommodation in the region, Woodside estimates that current accommodation can cater for a range of 500-700 personnel per day for an ongoing operation.
- TRPs have been developed for all identified RPAs excepting international locations.
- More detail regarding capability need is included at Section 6.6 together with consideration of potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.6.

5.7 Oiled wildlife response (including hazing)

Oiled wildlife response (OWR) includes wildlife surveillance/reconnaissance, wildlife hazing, pre-emptive capture, and the capture, cleaning, treatment, and rehabilitation of animals that have been oiled. In addition, it includes the collection, post-mortem examination, and disposal of deceased animals that have succumbed to the effects of oiling.

For a petroleum activity spill in Commonwealth waters, Woodside will act as the Control Agency and will be responsible for the wildlife response. In such circumstances, Woodside would implement a response in accordance with the *Oiled Wildlife Operational Plan*, the WA Oiled Wildlife Response Plan (WAOWRP) (DBCA, 2022a) and the WA OWR Manual (DBCA, 2022b). The *Oiled Wildlife Operational Plan* includes the process for the IMT to mobilise resources depending on the nature and scale of the spill. Oiled wildlife operations would be implemented with advice and assistance from the Oiled Wildlife Advisor from the Department of Biodiversity, Conservation and Attractions (DBCA).

The key plan for OWR in WA is the WAOWRP (DBCA, 2022a). The WAOWRP establishes the framework for preparing and responding to potential or actual wildlife impacts during a spill and sets out the management arrangements for implementing an OWR in conjunction with the DTMI *State Hazard Plan – Maritime Environmental Emergencies* (SHP-MEE). It is the responsibility of DBCA to administer the WAOWRP under the direction of the DTMI. The WA OWR Manual (DBCA, 2022b) supports, and should be used in conjunction with, the WAOWRP. The purpose of the WA OWR Manual is to standardise the operating procedures, protocols and processes for an OWR during a spill event in WA waters, and to create alignment between the wildlife response processes and the overall incident response (DBCA, 2022b).

If a spill occurs in WA State waters or enters State waters, DBCA is the Jurisdictional Authority for wildlife, for level 2/3 spills, and will also lead the oiled wildlife response under the control of the DTMI. DBCA is the State Government agency responsible for administering the *Biodiversity Conservation Act 2016 (BC Act)* which has provisions for authorising activities that affect wildlife.

For level 1 spills in State waters, Woodside will be the Control Agency, including for wildlife response. It is, however, also an expectation that for level 2/3 petroleum activity spills, Woodside will conduct the initial first-strike response actions for wildlife response and continue to manage those operations until DBCA is activated as the lead agency for wildlife response and formal handover occurs. Following formal handover, Woodside will function as a support organisation for the OWR and will be expected to continue to provide planning and resources as required.

Woodside retains specialist personnel to support and manage oiled wildlife operations, including trained and competent responders for deployment in Exmouth and Dampier. Additional personnel would be sourced through Woodside's arrangements to support an oiled wildlife response as required.

5.7.1 Response need based on predicted consequence parameters

Wildlife response priority areas and assessment of wildlife impact

French-McCay et al. (2002), based on a review of existing literature at the time, determined lethal thresholds for floating and shoreline oil for the external coating of wildlife to be 10 g/m^2 for floating, and 100 g/m^2 for shoreline accumulation. It should however be noted that toxicity thresholds for wildlife are likely to be highly variable due to differences in species sensitivity, type of hydrocarbon, type of exposure (ingestion or external oiling), life-stage, and on-water versus land habitat.

For planning purposes, determination of wildlife priority protection areas is based on stochastic modelling of the worst-case spill scenarios at 10 g/m^2 for floating, and 100 g/m^2 for shoreline accumulation (acknowledging that impacts to wildlife may occur at lower concentrations), the known presence of wildlife, and in consideration of the following:

- Presence of high densities of wildlife, threatened species, and/or endemic species with high site fidelity
- Greatest probability of shoreline accumulation
- Shortest timeframe to contact

Table 5-13 outlines the wildlife response areas for this activity. At the time of a spill, identification and allocation of wildlife RPA's should also take into consideration any key biological activities. Additional detail regarding species and their key biological activities within the vicinity of the PAP are described in Section 4 of the Okha FPSO Facility Operations Environment Plan.

For WA, the Pilbara and Kimberley Regional Oiled Wildlife Plans (DBCA [formerly Department of Parks and Wildlife), 2014) provide useful information relating to wildlife priority response areas in their respective regions.

Table 5-13: Key at-risk species potentially in Response Protection Areas and open ocean

Species	Open ocean	Barrow Island	Exmouth / Exmouth Gulf West	Montebello Island	Muiron Island	Pilbara Islands	Sunday Island	Ningaloo Coast	Lowendal Islands
Marine turtles		✓	✓	✓	✓	✓	✓	✓	✓
Seabirds and/or migratory shorebirds	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cetaceans – migratory whales	✓	✓	✓	✓	✓		✓	✓	✓
Cetaceans – dolphins and porpoises	✓	✓	✓	✓	✓	✓	✓	✓	✓
Dugongs		✓	✓	✓	✓	✓	✓	✓	✓
Whale sharks	✓			✓	✓		✓		✓
Sea snakes	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sharks and rays	✓		✓	✓	✓	✓	✓	✓	✓

The following statements identify the key parameters upon which a wildlife response need can be based:

- Floating oil at >10 g/m^2 is predicted at Montebello Islands on Day 8 (MEE-05).
- The shortest timeframe for shoreline accumulation at response thresholds (>100 g/m^2) is predicted to be day 7.2 at Barrow Island (42 m^3) (MEE-05).
- At sea there are likely to be low numbers of at risk or impacted wildlife, and limited opportunities to rescue wildlife, given the distribution and behaviour of animals in the open marine environment. At sea, continued wildlife reconnaissance, carcass recovery, sampling of carcasses that cannot be retrieved and operational and scientific monitoring are more likely to be the focus of response efforts.
- As the surface oil approaches shorelines and as oil accumulates on the shoreline, potential for oiled wildlife impacts is likely to increase as well as opportunities to rescue wildlife.
- It is estimated that the wildlife impact would be between medium and high, as defined in the WAOWRP (DBCA, 2022a) (Table 5-14).

Table 5-14: WAOWRP Guide for rating wildlife impact of an oil spill (DBCA, 2022)

Wildlife Impact Rating	Low	Medium	High
What is the likely duration of the wildlife response?	<3 days	3-10 days	>10 days
What is the likely total intake of animals?	<10	11-25	>25
What is the likely daily intake of animals?	0-2	2-5	>5
Are threatened species, or species protected by treaty, likely to be impacted, either directly or by pollution of habitat or breeding areas?	No	Yes – possible	Yes – likely
Is there likely to be a requirement for building primary care facility for treatment, cleaning and rehabilitation?	No	Yes – possible	Yes – likely

Tactics

Where there is imminent or actual impact to wildlife, Woodside will activate the Wildlife Division and follow the oiled wildlife incident management framework and implementation plan outlined in the Woodside *Oiled Wildlife Operational Plan*.

In Commonwealth waters, Woodside will be responsible for the planning and implementation of the OWR in its entirety. Noting that at sea, and in comparison to the shoreline, there are likely to be less wildlife impacted by an oil spill and limited opportunities to rescue wildlife, given the distribution and behaviour of animals in the open marine environment. At sea, continued wildlife reconnaissance, carcass recovery, sampling of carcasses that cannot be retrieved and integration with operational and scientific monitoring are more likely to be the focus of the OWR.

In State waters, Woodside will conduct the initial first-strike response actions for wildlife and continue to manage those operations until DBCA is activated as the lead agency for wildlife response and formal handover occurs. Following formal handover, Woodside will function as a support organisation for the OWR and will be expected to continue to provide planning and resources as required.

If a protracted response is likely, requiring preventative actions and/or wildlife rescue, and formal hand over to the Control Agency (in State waters) has not yet occurred, the Wildlife Division will be responsible for the development of the Wildlife Division portion of the IAP. Preventative actions, such as hazing, along with capture, intake and treatment require a higher degree of planning, approval (licenses) and skills and will be planned for and carried out under the IAP as outlined in the *Oiled Wildlife Operational Plan* and in accordance with the WAOWRP (DBCA, 2022a) and WA OWR Manual (DBAC, 20022b).

The oiled wildlife response technique targets key wildlife populations at risk within Commonwealth open waters and the nearshore waters as described in Section 4 of the EP.

5.7.2 Environmental performance based on need

Table 5-15: Environmental Performance – Oiled Wildlife Response (OWR)

Environmental Performance Outcome		OWR is conducted in accordance with the Western Australian Oiled Wildlife Response Plan (WAOWRP, 2022) to meet legislative requirements to house, release or euthanise wildlife under the *Biodiversity Conservation Act 2016*.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
24	Wildlife response arrangements	24.1	Oiled Wildlife Operational Plan in place and utilised during a response to plan, coordinate, implement and terminate operations	1, 3A, 4
		24.2	Initiate a wildlife first strike response within 24 hours of confirmed or imminent wildlife contact as directed by OMP: Marine Fauna Assessment and in liaison with DBCA.	1
25	Wildlife response equipment	25.1	Maintain contract with AMOSC for immediate access to oiled wildlife response equipment.	1, 3C, 4
		25.2	Maintain contract with OSRL to access additional oiled wildlife response equipment.	1, 3C, 4
26	Wildlife responders	26.1	Two Oiled Wildlife Team Members to supervise the oiled wildlife operations who have completed an OWR Management course.	1, 2, 3B
		26.2	Maintain contract with AMOSC for immediate access to trained oiled wildlife response specialists	1, 3B, 3C
		26.3	Maintain contract with OSRL to access additional trained OWR specialists	1, 3B, 3C
		26.4	Open communication line to be maintained between IMT and infield operations to ensure awareness of progress against plan(s).	1, 3A, 3B
27	Management of environmental impacts of response risks	27.1	Oiled wildlife operations (including hazing) would be implemented with advice and assistance from the Oiled Wildlife Advisor from the DBCA, and in accordance with the processes and methodologies described in the WA OWRP and the relevant regional plan.	1

The resulting wildlife response capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to response at identified RPAs.

Under optimal conditions, during the subsea or surface release, the capability available meets the need identified. It indicates that, the wildlife response capability has the following expected performance:

- undertake OWR first strike response including mobilisation of monitor and evaluate and OMP: Marine Fauna Assessment to identify wildlife and RPAs contacted or at imminent risk of contact by hydrocarbons
- confirm availability and mobilisation of trained OWR personnel to supervise OWR activities.
- access to wildlife resources (personnel and equipment) to meet the needs where there are medium or high levels of wildlife impact.

5.8 Waste Management

Waste management is considered a support technique to wildlife response, containment and recovery and shoreline clean-up. Waste generated and collected during the response that will require handling, management and disposal may consist of:

- Liquids (hydrocarbons and contaminated liquids) collected during containment and recovery, shoreline clean-up and wildlife response, and/or
- Solids/semi-solids (oily solids, garbage, contaminated materials) and debris (e.g. seaweed, sand, woods, and plastics) collected during containment and recovery, shoreline clean-up and wildlife response.

Expected waste volumes during an event are likely to vary depending on oil type, volume released, response techniques employed and how weathering of hydrocarbons. Waste management, handling and capacity should be scalable to maintain continuous response operations.

All waste management activities will follow the *Environment Protection (Controlled Waste) Regulations 2004* and the waste will be managed to minimise final disposal volumes. Waste treatment techniques will consider contaminated solids treatment to allow disposal to landfill and solids with high concentrations of hydrocarbon will be treated and recycled where possible or used in clean fill if suitable.

The waste products would be transported from response locations to the nearest suitable staging area/waste transfer station for treatment, disposal or recycling. Waste will be transferred with appropriately licensed vehicles. Containers will be available for temporary waste storage and will be:

- labelled with the waste type
- provided with appropriate lids to prevent waste being blown overboard
- bunded if storing liquid wastes.
- processes will be in place for transfers of bulk liquid wastes and include:
  - inspection of transfer hose undertaken prior to transfer
  - watchman equipped with radio visually monitors loading hose during transfer
  - tank gauges monitored throughout operation to prevent overflow

The *Oil Spill Preparedness Waste Management Support Plan* details the procedures, capability and capacity in place between Woodside and its primary waste services contractor to manage waste volumes generated from response activities.

5.8.1 Response need based on predicted consequence parameters

Table 5-16: Response Planning Assumptions – Waste Management

Response planning assumptions: Waste management	
Waste loading per m^3 oil recovered (multiplier)	Containment and Recovery – approximately 10x multiplier for oily waste generated by containment and recovery operations.
	Shoreline clean-up (manual) – approximately 5-10x multiplier for oily solid and liquid wastes generated by manual clean-up.
	Oiled wildlife response – approximately 1 m^3 of oily solid and liquid waste generated for each wildlife unit cleaned.

5.8.2 Environmental performance based on need

Table 5-17: Environmental Performance – Waste Management

Environmental Performance Outcome		To minimise further impacts, waste will be managed, tracked and disposed of in accordance with laws and regulations.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
28	Waste Management	28.1	Contract with waste management services for transport, removal, treatment and disposal of waste	1, 3A, 3B, 3C, 4
		28.2	Access to at least 675 m^3 of solid and liquid waste storage available within 4 days upon activation of 3rd party contract.	
		28.3	Access to up to 2,400 m^3 per day by day 6.	
		28.4	Decanting in accordance with National Plan guidelines to occur in daylight hours into the apex of the boom once hydrocarbon/water has settled in storage container.	
		28.5	Recovered hydrocarbons and wastes will be transferred to licensed treatment facility for reprocessing or disposal.	
		28.6	Waste management provider support staff available year-round to assist in the event of an incident with waste management as detailed in contract.	
		28.7	Open communication line to be maintained between IMT and waste management services to ensure the reliable flow of accurate information between parties.	1, 3A, 3B
		28.8	Waste management to be conducted in accordance with Australian laws and regulations	1, 3A, 3B, 3C, 4
		28.9	Waste management services available and employed during response	
29	Management of environmental impacts of response risks	29.1	Teams will segregate liquid and solid wastes at the earliest opportunity.	1, 3A, 3B, 3C, 4

The resulting waste management capability has been assessed against the WCCS. The range of techniques provide an ongoing approach to waste management at identified RPAs.

The largest shoreline volumes ashore are predicted for MEE-05 during Week 2 at a maximum volume of 169 m^3 requiring 1,700 m^3 waste storage. 3,142 m^3 of waste is expected across all shoreline clean-up operations up to month 4.

It indicates that the waste management capability has the following expected performance:

- Offshore operations may generate up to an additional 1,215 m^3 waste of offshore operations (week 1) (MEE-05).
- Shoreline and nearshore operations for MEE-05 may generate up to 4,357 m^3 over 2-3 months of operations.
- Shoreline operations for MEE-01 may generate up to 1,553 m^3 over 4 months of operations.
- Woodside has assessed the existing capability available and considered potential alternative, additional and improved control measures. Where control measures have been selected and implemented, they are included in Section 6.7.
- Woodside's waste contractor has access to approximately 120,000 m^3 to treat overall waste volumes. The waste management requirements are within Woodside's and its service providers existing capacity.

5.9 Operational and Scientific monitoring

Operational and scientific monitoring (OSM) is a key component of the environmental management document framework for offshore petroleum activities, which includes activity EPs and OPEPs. The key elements and differences between operational monitoring and scientific monitoring include:

- **Operational Monitoring (OM)** – Is undertaken during the course of the spill and includes any physical. chemical and biological assessments that may guide operational decisions such as selecting the appropriate response and mitigation methods and/or to determine a response activity. Information needs to be collected and processed rapidly to suit response needs, with a lower level of sampling and accuracy needed than for scientific purposes. For the OMP initiation and termination criteria during a Level 2-3 spill event refer to Table 9-1 of the Joint Industry OSM Framework.
- **Scientific Monitoring (SM)** - Is the principal tool for determining the extent, severity and persistence of possible environmental impacts from a hydrocarbon spill and for informing resultant remediation activities. Consequently, such studies are required to account for natural or sampling variation, and study designs must be robust and produce defensible data. Scientific monitoring is typically conducted over a wider study area, extending beyond the spill footprint, and a longer time period, extending beyond the spill response. For the SMP initiation and termination criteria during a Level 2-3 spill event refer to Table 9-2 of the Joint Industry OSM Framework.

Woodside has developed a Woodside OSM Bridging Implementation Plan (OSM-BIP), which describes a program of monitoring oil pollution that will be adopted in the event of a hydrocarbon spill incident (Level 2–3) to marine waters. It aligns with the Joint Industry OSM Framework (AEP, 2021) and describes how this Framework applies to Woodside activities and spill risks.

A series of Operational Monitoring Plans (OMPs) and Scientific Monitoring Plans (SMPs) form part of the Joint Industry OSM Framework and provide detail on monitoring design, standard operating procedures, data management, quality assurance and quality control and reporting.

Table 5-18 lists the Joint Industry OMPs and SMPs that are predicted to be relevant to the Okha FPSO Facility Operations Petroleum Activities Program.

The OSM-BIP is structured so that it can provide a flexible framework that can be adapted to individual spill incidents. The Combined Socio-Cultural EMBA (refer to section 2.1 of the OSM-BIP), derived from all Woodside worst-case scenarios, represents the geographical extent of the Woodside OSM-BIP. The OSM-BIP includes details on all locations possibly contacted within seven days of a spill, based on stochastic modelling of all Woodside worst-case spill scenarios at the low exposure values and a probability of greater than 10% (refer to Section 2.1 and Table 2.1 in the OSM-BIP for further detail). A baseline review has been conducted for all of these locations and associated receptors.

The specific first-strike monitoring priorities for the PAP credible spill scenarios are listed in ANNEX C: OSM Activity Specific Requirement and Verification of OSM-BIP Adequacy.

The OSM-BIP also includes the resourcing requirements for Woodside's worst-case scenario in terms of requiring the greatest first-strike and ongoing capability needs as described in Section 8 and 9 of the OSM-BIP. In summary, Woodside assessed the worst-case spill scenario for OSM capability as the scenario contacting the most receptors at the low thresholds at a probability >10% and within 7 days.

The OSM requirements for PAP credible spill scenarios and an assessment to demonstrate that the OSM-BIP adequately covers these requirements is provided in ANNEX C.

Woodside will review the initiation criteria for OMPs and SMPs (provided in Table 9-1 [OMPs] and Table 9-2 [SMPs] of the Joint Industry Operational and Scientific Monitoring Framework (APPEA, 2021)) during the preparation of the initial IAPs, and subsequent IAPs. If any initiation criteria are met, then that relevant OMP and/or SMP will be activated via the OSM Services Provider.

Table 5-18: Joint industry OSM plans relevant to the Okha FPSO Facility Operations Petroleum Activities Program

Operational Monitoring	Relevant for the activity	Scientific Monitoring	Relevant for the activity
OM1: Hydrocarbon Characterisation	✓	SM1: Water Quality Impact Assessment	✓
OM2: Hydrocarbon in Water Assessment	✓	SM2: Sediment Quality Impact Assessment	✓
OM3: Hydrocarbon in Sediment Assessment	✓	SM3: Intertidal & Coastal Habitat Assessment	✓
OM4a: Dispersant Effectiveness Monitoring (Subsea)	×	SM4: Seabirds and Shorebirds Assessment	✓
OM4b: Dispersant Effectiveness Monitoring (Surface)	✓	SM5: Marine mega-fauna Assessment	✓
OM5: Rapid Marine Fauna Surveillance	✓	SM6: Benthic habitat Assessment	✓
OM6: Shoreline Clean-up Assessment (SCAT)	✓	SM7: Marine fish and elasmobranch assemblages assessment	✓
		SM8: Fisheries Impact Assessment	✓
		SM9: Heritage Features Assessment	✓
		SM10: Social Impact Assessment	✓

5.9.1 Response need for Shoreline Clean-Up Assessment (SCAT) based on predicted consequence parameters

The following statements identify the key parameters upon which the response need can be based:

- SCAT will be mobilised to RPAs contacted at 100 g/m^2.
- The deterministic run with the shortest timeframe for shoreline accumulation at 100 g/m^2 predicted is day 7 at Barrow Island (MEE-05).

In addition, a number of assumptions are required to estimate the response need for SCAT. These assumptions have been described in Table 5-19. Consequently, for planning purposes and based on the deterministic modelling results for shortest time to contact at >100 g/m^2 there is one RPA (Barrow Island requiring up to 2 SCAT specialists. These resourcing requirements can be met via the resourcing arrangements outlined in Table 8-3 of the OSM-BIP.

Table 5-19: Response Planning Assumptions – SCAT

Response planning assumptions: SCAT	
Safety considerations	Shoreline clean-up operations cannot be implemented if the safety of response personnel cannot be guaranteed. This requires an initial and ongoing risk assessment of health and safety hazards and risks at the site. Personnel safety issues may include: • hydrocarbon gas and/or liquid exposure • waves and/or sea states, tidal cycle and intertidal zone limits • presence of wildlife • high ambient temperatures.
SCAT	• Deployment of 2 x specialists in SCAT from resource pool for each of the RPAs with predicted impacts

5.9.2 Environmental performance based on need

Table 5-20: Operational and scientific monitoring

Environmental Performance Outcome		Implement OSM programs to assess and report on the impact, extent, severity, persistence and recovery of sensitive receptors contacted by a spill or affected by spill response.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
30	OSM arrangements	30.1	Maintain access to OSM expertise qualified to fulfil OSM Implementation Lead role during a Level 2/3 spill event per Joint Industry OSM Framework requirements.	3A, 3B, 3C, 4
		30.2	OSM Implementation Lead responsible for overseeing implementation of OMP and SMP components in accordance with the Woodside OSM Bridging Implementation Plan.	
31	Access to adequate OSM capability to provide both first strike and ongoing monitoring	31.1	Maintain contract with third-party provider to provide access to suitably qualified and competent personnel and equipment to assist in the implementation of monitoring	3A, 3B, 3C, 4
		31.2	Obtain monthly capability reports from OSM Service Provider to demonstrate suitable resources are available throughout any activity	
		31.3	Annual testing of OSM Service Provider standby arrangements and activation process	
32	Baseline studies assurance	32.1	Annual review of environmental baseline data for all locations where spill modelling has predicted contact at relevant hydrocarbon thresholds within 7 days	3C
33	OSM response	33.1	OMPs and SMPs will be activated in accordance with the initiation criteria provided in Tables 9-1 and 9-2 of the Joint Industry OSM Framework (APPEA, 2021)	1
		33.2	Initiation criteria of OMPs and SMPs will be reviewed during the preparation of the initial Incident Action Plan (IAPs) and subsequent IAPs; and if any criteria are met, relevant OMPs and SMPs will be activated	
		33.3	OSM to be conducted in accordance with the Woodside OSM-BIP	
		33.4	Implementation of OSM will comply with the minimum standards listed in Appendix A of the Joint Industry OSM Framework	
		33.5	Once OSM data reports are drafted they will be peer reviewed by an expert panel for data integrity	
		33.6	OMPs and SMPs will be terminated in accordance with the termination criteria provided in Table 9-1 and 9-2 of the Joint Industry OSM Framework (APPEA, 2021)	
34	OSM-BIP maintenance	34.1	Annual review of the OSM-BIP will be conducted according to the criteria in the OSM-BIP	3A, 3B, 3C, 4
35	Shoreline Clean-up Assessment Technique (SCAT)	35.1	Mobilisation within 24 hours, in agreement with WA DTMI (for Level 2/3 incidents), deployment of 2 x specialist(s) in SCAT from resource pool for each of the Response Protection Areas (RPAs) with predicted impacts	1, 2, 3B, 3C, 4
		35.2	Reports from OMP: Shoreline Clean-up Assessment will be provided to the IMT daily, detailing the assessed areas to maximise effective utilisation of resources.	1, 3B, 4
		35.3	Shoreline access routes (foot, car, vessel and helicopter) with the least environmental impact identified will be selected by a specialist in SCAT operations	1

		35.4	If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified	1
		35.5	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines	
		35.6	Vehicular access will be restricted on dunes, turtle nesting beaches and in mangroves	

5.10 Incident Management System (IMS)

The Incident Management System (IMS) is both a control measure and a measurement criteria. As a control measure the IMS function is to prompt, facilitate and record the completion of three key response planning processes detailed below. As a measurement criteria, the IMS records the evidence of the timeliness of all response actions included in the environmental performance standards and the plans used of the PAP.

As the IMS does not directly remove hydrocarbons spilt into the marine environment there is no direct relationship to the response planning need.

5.10.1 Incident action planning

The CIMT will be required to collect and interpret information from the scene of the incident to determine support requirements to the site-based IMT, develop an IAP and assist the IMT with the execution of that plan. The site-based IC may request the CIMT to complete notifications internally within Woodside, to relevant persons/ organisations and government agencies as required. Depending on the type and scale of the incident either the CIMT DM or IC will be responsible for ensuring the development of the IAP. Incident Action Planning is an ongoing process that involves continual review to confirm the appropriateness of techniques to control the incident for the situation at the time.

5.10.2 Operational NEBA process

In the event of a response Woodside will confirm that the response techniques adopted at the time of Environment Plan/ Oil Pollution Emergency Plan (EP/ OPEP) acceptance remain appropriate to reduce the consequences of the spill. This process verifies that there is a continuing net environmental benefit associated with continuing the response technique through the operational NEBA process. This process manages the environmental risks and impacts of response techniques during the spill response, An operational NEBA will be undertaken throughout the response, for each operational period.

The operational NEBA will consider the risks and benefits of conducting and response activity. For example, if vessels are required for access to nearshore or onshore areas, anchoring locations will be selected to minimise disturbance to benthic habitats. Vessel cleanliness would be commensurate with the receiving environment. The operational NEBA will consider the risks and benefits of conducting other response techniques.

The operational NEBA process is also used to terminate a response. Using data from operational and scientific monitoring activities, the response to a hydrocarbon spill will be terminated in accordance with the termination criteria outlined in the Joint Industry OSM Framework (APPEA, 2021). In effect the operational NEBA will determine whether there is net environmental benefit to continue response operations.

5.10.3 Consultation engagement process

Woodside will consult relevant persons/ organisations are engaged during the spill response in accordance with internal standards. This process requires that Woodside will:

- Undertake all required notifications (including government notifications) for relevant persons/ organisations in the region (identified in the Oil Pollution First Strike Plan). This includes notification to mariners to communicate navigational hazards introduced through response equipment and personnel.
- In the event of a response, identify and engage with relevant persons/ organisations and continually assess and review.

5.10.4 Environmental performance based on need

Table 5-21: Environmental Performance – Incident Management System

Environmental Performance Outcome		To support the effectiveness of all other control measures and monitor/record the performance levels achieved.		
Control measure		**Performance Standard**		**Measurement Criteria (Section 5.11)**
36	Operational SIMA	36.1	Confirm that the response techniques adopted at the time of acceptance remain appropriate to reduce the consequences of the spill within 24 hours.	1, 3A
		36.2	Record the evidence and justification for any deviation from the planned response activities.	
		36.3	Record the information and data from operational and scientific monitoring activities used to inform the SIMA.	
37	Stakeholder engagement	37.1	Prompt and record all notifications (including government notifications) for persons/ organisations in the region are made	
		37.2	In the event of a response, identification of relevant persons/ organisations will be re-assessed throughout the response period.	
		37.3	Undertake communications in accordance with: • Functional Support Team Guideline – Reputation • External Communication and Continuous Disclosure Procedure	
38	Personnel required to support any response	38.1	Action planning is an ongoing process that involves continual review to confirm the appropriateness of techniques to control the incident are appropriate to the situation at the time.	1, 3B
		38.2	A duty roster of trained and competent people will be maintained to maintain minimum manning requirements are met all year round.	3C
		38.3	Immediately activate the CIMT with personnel filling one or more of the following roles: • CIMT Incident Commander • CIMT Deputy Incident Commander • Operations Section Chief • Planning Section Chief • Logistics Section Chief • Documentation Unit Leader • Safety Officer • Environment Unit Leader • Human Resources Officer • Public Information Officer • Situation Unit Leader • Finance Section Chief • Source Control Section Chief	1, 2, 3B, 3C, 4
		38.4	Collect and interpret information from the scene of the incident to determine support requirements to the site-based IMT, develop an IAP and assist with the execution of that plan.	
		38.5	S&EM advisors will be integrated into CIMT to monitor performance of all functional roles.	
		38.6	Continually communicate the status of the spill and support Woodside to determine the most appropriate response by delivering on the responsibilities of their role.	
		38.7	Follow the Hydrocarbon Spill Australia Regulatory Framework, Operational Plans, FSPs, support plans and the IAPs developed.	1, 2, 3A, 4
		38.8	Contribute to Woodside's response in accordance with the aims and objectives set by the Incident Commander.	1, 2, 3B, 3C, 4

5.11 Measurement criteria for all response techniques

Woodside measures compliance with environmental performance outcomes and standards through four primary mechanisms. The aforementioned performance tables identify which of these four mechanisms monitors the readiness and records the effectiveness and performance of the control measures adopted.

1. The Incident Management System

The Incident Management System (IMS) supports the implementation of the Crisis and Emergency Management Standard. The IMS provides a near real-time, single source of information for monitoring and recording an incident and measuring the performance of those control measures.

The Crisis and Emergency Management Standard defines the management framework, including roles and responsibilities, to be applied to any size incident (including hydrocarbon spills). The organisational structure required to manage an incident is developed in a modular fashion and is based on the specific requirements of each incident. The structure can be scaled up or down.

The Incident Action Plan (IAP) process formally documents and communicates the:

- Incident objectives
- Status of assets
- Operational period objectives
- Response techniques (defined during response planning)
- The effectiveness of response techniques.

The information captured in the IMS (including information from personal logs and assigned tasks/close outs) confirms the response techniques implemented remain appropriate to reduce the consequences of the spill. The system also records all information and data that can be used to support the site-based IMT, development and the execution of the IAP.

2. The CEM Competency Dashboard

The CEM competency dashboard records the number of trained and competent responders that are available across Woodside, and some external providers, to participate in a response.

This number varies dependent on expiry of competency certificates, staff attrition, internal rotations, leave and other absences. As such the Dashboard is designed to identify the minimum manning requirements and to identify sufficient redundancy to cater for the variances listed above.

Figure 5-1 shows the minimum manning numbers for the different hydrocarbon spill response roles and the number of qualified persons against those roles.

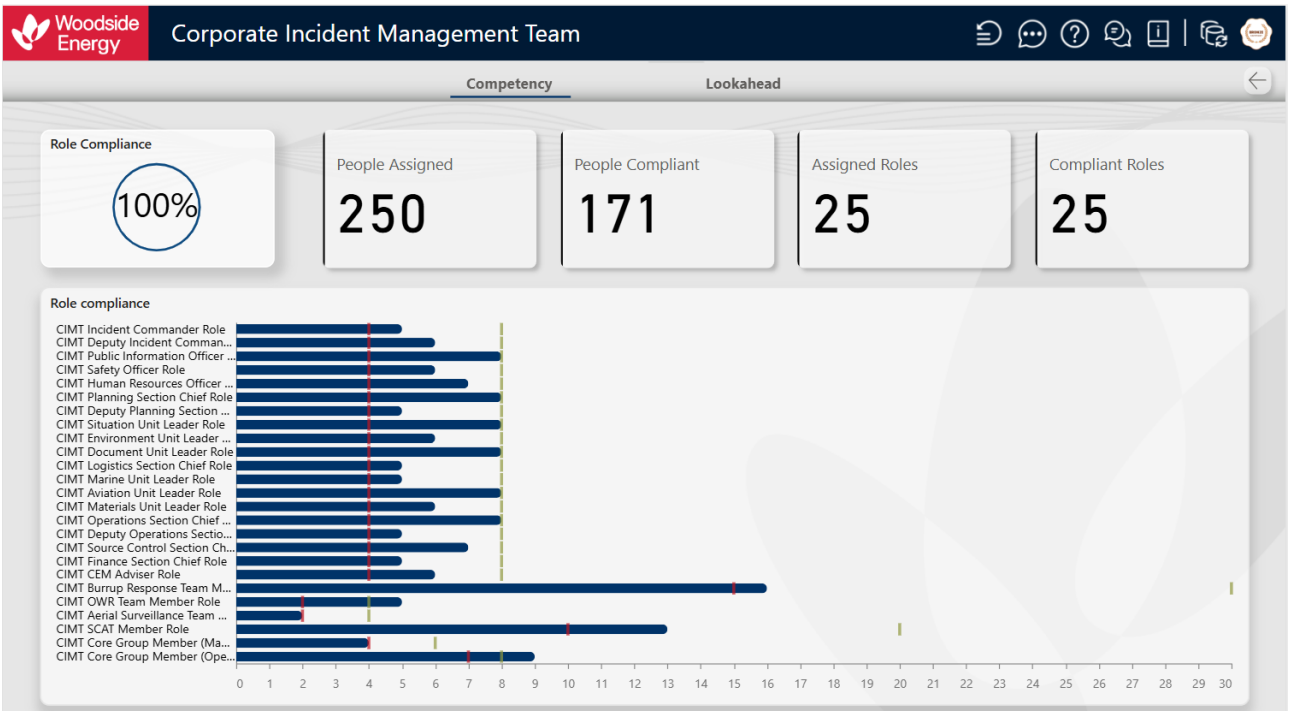

Figure 5-1: Example screenshot of the CEM competency dashboard

The Dashboard is one of Woodside's key means of monitoring its readiness to respond. It also demonstrates Woodside's ability to meet the requirements of the environmental performance standards that relate to filling certain response roles.

Figure 5-2 shows an example of the SCAT role and the training modules required to show competence.

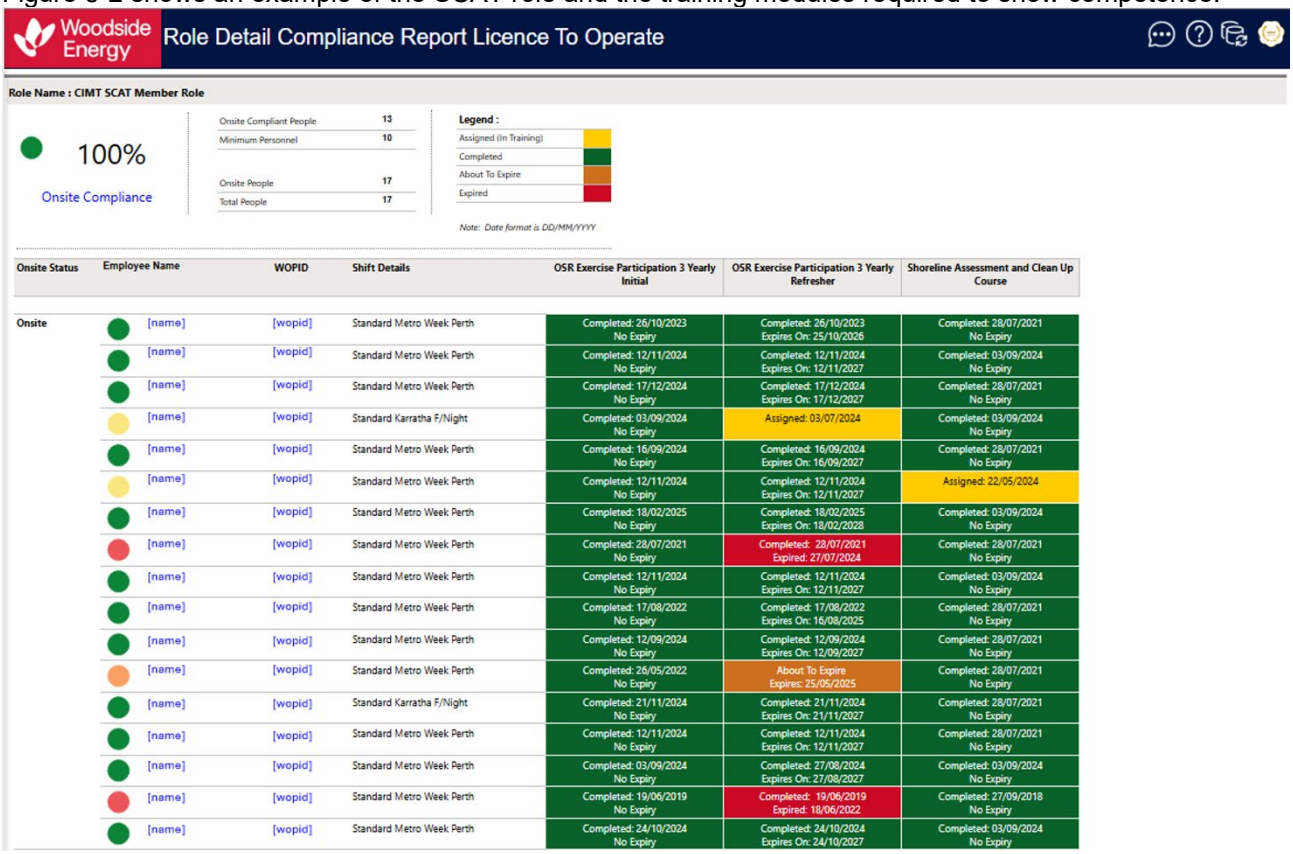

Figure 5-2: Example screenshot for the SCAT role

Woodside also maintains access to a pool of trained responders is composed of but not limited to personnel from the following organisations:

- Woodside internal
- Australian Marine Oil Spill Centre (AMOSC) core group
- AMOSC
- Oil Spill Response Limited (OSRL)
- Marine Spill Response Corporation (MSRC)
- Woodside contracted workforce

3. The Hydrocarbon Spill Preparedness Assurance Process

The Hydrocarbon Spill Response Team uses Woodside's assurance process to track compliance over four key control areas:

a) **Plans** – confirms all plans (including: Hydrocarbon Spill Australia Regulatory Framework, first strike plans, operational plans, support plans and tactical response plans) are current and in line with regulatory and internal requirements.

b) **Competency (personnel and testing)** – confirms the competency dashboard is up to date and there are the minimum numbers across CIMT, CMT and hydrocarbon spill response roles. The hydrocarbon spill training plan and exercise schedule, including testing of arrangements is also tracked. The Testing of Arrangements (TOA) register tracks the testing of all hydrocarbon spill response arrangements, key contracts and agreements in place with internal and external parties to ensure compliance.

c) **Capability (equipment and contracts)** – tracks and monitors capability that could be required in a hydrocarbon incident, including but not limited to: integrated fleet[7] vessel schedule, dispersant availability, rig/vessels monitoring, equipment stockpiles, tracking buoy locations and the CIMT duty roster.

The assurance process records how each commitment listed in the performance tables above is managed for ongoing compliance monitoring. The level of compliance can be reviewed in real time and is reported on a monthly basis through the CEM Function.

4. The Hydrocarbon Spill Planning Standard, Hydrocarbon Spill Planning Work Instruction (Australia) and Hydrocarbon Spill Capability and Competency Standard

The Hydrocarbon Spill Planning Standard sets out how to plan and prepare for a liquid hydrocarbon spill to the marine environment. (Note, this standard does not apply to scenarios relating to gas releases in the marine environment). This standard details the requirement for an Oil Pollution Emergency Plan (OPEP) to be developed, maintained, reviewed, and approved by appropriate regulators (where applicable).

The Hydrocarbon Spill Planning Work Instruction (Australia) details planning for hydrocarbon spill response preparedness including:

- Developing OPEPs.
- Defining how spill scenarios are developed on an activity specific basis.
- Priority response receptor determination.
- ALARP determination.

The Hydrocarbon Spill Capability and Competency Standard details:

- Developing spill training requirements and ongoing maintenance of training and competency for personnel.
- Developing requirements for spill exercising / testing of spill response arrangements.
- Maintaining access to identified equipment, personnel and contracts.
- Ensuring compliance and assurance is undertaken in accordance with external and internal requirements.

[7] The Integrated fleet consists of vessels from multiple operators that have been contracted to Woodside to undertake a number of duties including hydrocarbon spill response.

6 ALARP EVALUATION

This Section should be read in conjunction with Section 5 which is the capability planned for this activity.

6.1 Monitor and Evaluate – ALARP Assessment

Alternative, additional and improved options have been identified and assessed against the base capability described in Section 5.1 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.1.1 Monitor and evaluate – Control Measure Options Analysis

6.1.1.1 Alternative Control Measures

Alternative Control Measures considered *Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
Aerostat (or similar inflatable observation platform) for localised aerial surveillance.	Lead time to aerostat surveillance is disproportionate to the environmental benefit. The system also provides a very limited field of visibility around the vessel it is deployed from.	Long lead time to access (>10 days). Each system would require an operator to interpret data and direct vessels accordingly. Requires multiple systems for shoreline use.	Purchase cost per system approx. $300,000.	This option is not adopted as the minimal environmental benefit gained is disproportionate to the cost and complexity of its implementation.	**No**

6.1.1.2 Additional Control Measures

Additional Control Measures considered *Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
Additional personnel trained to use systems.	Current arrangement provides an environmental benefit in the availability of trained personnel facilitating access to monitoring data used to inform all other response techniques. No improvement required.	No improvement can be made, all personnel in technical roles e.g. intelligence unit are trained and competent on the software systems. Personnel are trained and exercised regularly. Use of the software and systems forms part of regular work assignments and projects.	Cost for training in-house staff would be approx. $25,000.	This option is not adopted as the current capability meets the need.	**No**
Additional satellite tracking buoys to enable greater area coverage.	Increased capability does not provide an environmental benefit compared to the disproportionate cost in having an additional contract in place.	Tracking buoy on location at manned facility, additional needs are met from Woodside owned stocks in King Bay Support Facility (KBSF) and Exmouth or can be provided by service provider.	Cost for an additional satellite tracking buoy would be $200 per day or $6,000 to purchase.	This option is not adopted as the current capability meets the need, but additional units are available if required.	**No**
Additional trained aerial observers.	Current capability meets need. Woodside has access to a pool of trained, competent observers at strategic locations to ensure timely and sustainable response. Additional observers are available through current contracts with AMOSC and OSRL.	Current capability meets need. Woodside has a pool of trained, competent observers at strategic locations to ensure timely and sustainable response. Additional observers are available through current contracts with AMOSC and OSRL Aviation standards & guidelines ensure all aircraft crews are competent for their roles. Woodside maintains a pool of trained and competent aerial observers with various home base locations to be called upon at the time of an incident. Regular audits of oil spill response organisations ensure training and competency is maintained.	Cost for additional trained aerial observers would be $2,000 per person per day.	This option is not adopted as the current capability meets the need, but additional observers are available via response contractors if required.	**No**

6.1.1.3 Improved Control Measures

Improved Control Measures considered *Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**

Faster turnaround time from modelling contractor.	Improved control measure does not provide an environmental benefit compared to the disproportionate cost in having an additional contract in place.	External contractor on CIMT roster to be called as soon as required. However initial information needs to be gathered by CIMT team to request an accurate model. External contractor has person on call to respond from their own location.	Modelling service with a faster activation time would be achieved via membership of an alternative modelling service at an annual cost of $50,000 for 24hr access plus an initial $5,000 per modelling run.	This option is not adopted as the minimal environmental benefit gained is disproportionate to the cost and complexity of its implementation.	**No**
Night time aerial surveillance.	The risk of undertaking the aerial observations at night is disproportionate to the limited environmental benefit. The images would be of low quality and as such the variable is not adopted.	Flights will only occur when deemed safe by the pilot. The risk of night operations, is disproportionate to the benefit gained, as images from sensors (IR, UV, etc). will be low quality. Flight time limitations will be adhered to.	No improvement can be made without risk to personnel health and safety and breaching Woodside's golden rules.	This option is not adopted as the safety considerations outweigh any environmental benefit gained.	**No**

6.1.2 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- alternative
  - none selected
- additional
  - none selected
- improved
  - none selected.

6.2 Source Control – ALARP Assessment

Woodside has based its response planning on the worst-case credible scenarios (as described in Section 2.2). This includes the following selection of primary source control and well intervention techniques which would be conducted concurrently:

- ROV intervention
- Relief well drilling.

6.2.1 ROV Intervention

Following confirmation of an emergency event, Woodside would mobilise inspection class ROVs to assess the status of the wellhead and Xmas tree. Work class ROVs for well intervention are available through the existing frame agreements.

As Woodside holds frame agreements for vessels along with contracts for ROV providers and pilots, inspection activities using ROVs are expected to commence within seven days of an emergency event.

A hydraulic accumulator contained as part of the SFRT can be mobilised and deployed with well intervention attempted within 11 days.

Table 6-1: ROV timings

	Estimate ROV inspection duration for Okha FPSO Facility Operations (days)
Source and mobilise vessel with work class ROV	2 days
Liaise with Regulator regarding risks and impacts*	4 days
Undertake ROV Inspection	1 day
TOTAL	**7 days***

** Based on timings from the Report into the Montara Commission of Enquiry, submission and discussion of revised documentation for limited activities inside the Petroleum Safety Zone (water deluge operations) to manage personnel risks and impacts was up to 20 days.*

6.2.1.1 Safety Case considerations

Woodside has assessed against the NOPSEMA safety case guidance (NOPSEMA N-09000-GN1661), confirming that vessels conducting subsea intervention operations are not classified as an "associated offshore place" but as a facility and therefore require the appropriate Safety Case arrangements to be in place. In the event of an emergency, Woodside has access to suitable vessels (ISVs) for well intervention through existing frame agreements. The frame agreements for ISV vessels require the vessels to maintain in-force safety case approval covering a range of subsea activities. This would cover the requirement for intervention operations such as subsea manifold installation, maintenance and repair, commissioning, cargo transfer (including bulk liquids) and ROV operations. With frame agreements in place, the credible Safety Case Scenario from those presented in Figure 6-3 for implementing this response would be "no safety case revision required". Timeframes for well intervention are detailed in Figure 6-2 and would be implemented concurrently to the actions required by the "no Safety Case" revision scenario detailed in Figure 6-3, therefore, the Safety Case scenario will have no impact on the delivery of the strategy.

6.2.2 Relief Well drilling

The options analysis detailed in this section considers options to source, contract and mobilise a MODU and ensure necessary regulatory approvals are in place to meet timelines for relief well drilling. The screening for relief well drilling MODUs is based on the following and the process used for Okha FPSO Facility Operations is illustrated in Figure 6-1:

- Primary – review internal Woodside drilling programs and MODU availability to source an appropriate MODU operating within Australia with an approved Safety Case.

- Alternate – source and contract a MODU through AEP MOU that is operating within Australia with an approved Safety Case.
- Contingency – Source and contract a MODU outside Australia with an approved Australian Safety Case.

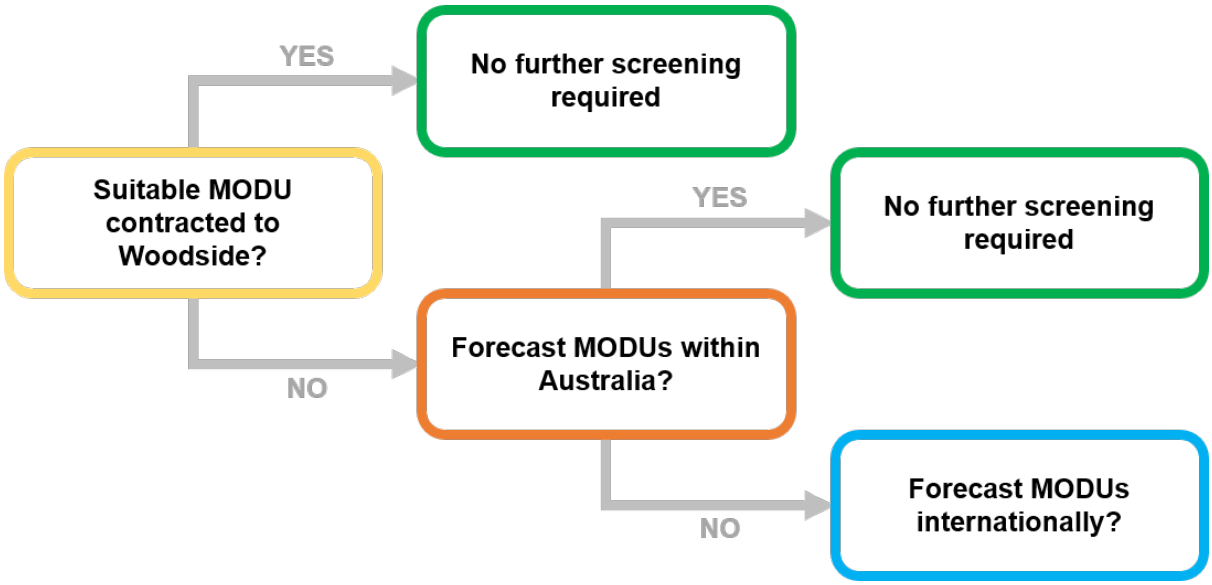

Figure 6-1: Okha FPSO Facility Operations process for sourcing relief well MODU

Woodside has not assessed the timeframe for obtaining a relief well MODU through international supply for this project as the certainty of local supply has been confirmed. Screening of a relief well MODU from international waters is undertaken only if required, i.e. there is low confidence in local (Australian) availability. The screening of relief well MODUs is undertaken and presented at a well design stage peer assessment. The capability, location and Australian Safety Case status is assessed for each Woodside contracted MODU. In the event the Woodside contracted MODUs are unsuitable, screening is extended to all MODUs operating in Australian Waters. The suitability and location of pre-identified relief well MODUs is tested again prior to the operation. Though the AEP MoU will serve as the instrument to facilitate the transfer of drilling units and well site services between operators in the event of an emergency, Woodside will engage each of the identified titleholders in advance to maintain confidence in MODU suitability and availability.

Based on the detail provided, the Primary and Alternate approaches are expected to be achieved within the 21-day period.

The internal and external availability of moored MODUs, plus MODU activities of registered operators and MODUs with approved safety cases, are tracked by Woodside on a monthly basis to ensure that the best available option can be sourced and utilised in the event of the worst-case credible scenario.

If the above forecast indicates a gap in availability of a suitable MODU for relief well drilling within Australia, screening would be extended to MODUs with a valid safety case outside Australia. If an international MODU with an Australian safety case is not identified, an internal review will be undertaken, NOPSEMA notified and the issue tabled at the AEP Drilling Industry Safety Committee. A review of the significance of the change in risk will be undertaken in accordance with Woodside's environment management of change requirements and relevant regulatory triggers. The aforementioned lookahead timeframe would allow two years' warning of any potential gap. Woodside will execute relief well drilling in the fastest possible timeframe.

The detail of these arrangements demonstrates that the risks have been reduced to ALARP and Acceptable levels through the control measures and performance standards outlined in Section 5.2.

6.2.2.1 Relief Well drilling timings

The duration of a blowout (from initiation to a successful kill) is assessed as 77 days for Okha FPSO Facility Operations PAP. Relief wells for other wells within the field are expected to be similar duration.

Details on the steps and time required to drill a relief well is shown in Table 6-2. DP and moored MODUs are suitable for the Okha FPSO water depth, therefore a moored MODU has been used as the basis for the time estimate below.

To validate the effectiveness of the relief MODU supply arrangements through the AEP MoU, an exercise to test the 21-day mobilisation period forms part of Woodside's three-yearly Hydrocarbon Spill Arrangements Testing Schedule. Testing of these arrangements are facilitated by an external party and includes suspension of the assisting operator's activities, contracting the MODU, vessel safety case revision and transit to location.

Table 6-2: Relief well drilling timings

Estimated Relief Well Duration	Moored Days	
Rig Mobilisation		
Secure and suspend well. Complete Relief well design. Secure relief well materials.	8.0	21 days
Transit to location based on mobilisation from within the region	2.0	
Backload and loadout bulks and equipment, complete internal assurance of relief well design.	2.0	
Contingency for unforeseen event	9.0	
Mooring activities and relief well construction operations	**41.7**	
Intersection & well kill comprising the following stages:		
Drill out shoe, conduct formation integrity test and drill towards intersection point	1.5	14 days
Execute well-specific ranging plan to accurately intersect wellbore in minimum timeframe	9.5	
Pump kill weight drilling fluid per the relief well plan. Confirm well is static with no further flow	0.5	
Contingency for unforeseen technical issues	2.5	
Total discharge duration	**76.7 (77)**	

Woodside has considered a broad range of alternate, additional, and improved options as outlined in Section 6.2.3.

Intersect and kill duration is estimated at 14 days. This is a moderately conservative estimate. During the intersect process, the relief well will be incrementally drilled and logged to accurately approach and locate the existing well bore. This will result in the highest probability of intersecting the well on the first attempt and thus will reduce the overall time to kill the well. During the Montara incident, it took five attempts to achieve a successful intersect.

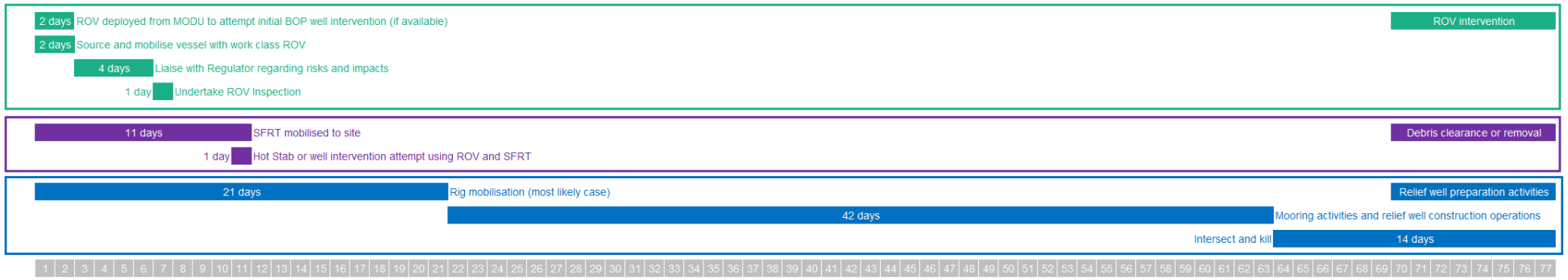

Figure 6-2: Source control and well intervention response strategy deployment timeframes for Okha FPSO Facility Operations (based on Lambert LH3 Well)

6.2.2.2 Safety Case considerations

Woodside recognises that it will not be the Operator or holder of the Safety Case for the MODU and/or vessels involved in relief well activities. In the event that a revision to the Operator's Safety Case is required for relief well drilling, Woodside has identified measures to ensure timely response and optimise preparedness as far as practicable that can be undertaken to expedite a straightforward Safety Case revision for a MODU/ vessel to commence drilling a relief well. Performance standards associated with these measures have been included in Section 5.2.

These include;

- Access to Safety and Risk discipline personnel with specialist knowledge.
- Monitoring internal and external MODUs and vessel availability in the region and extended area through contracted arrangements on a monthly basis, with a two-year lookahead.
- Prioritisation of MODUs/vessels with current or historical contracting arrangements. Woodside maintains records of previous contracting arrangements and companies. All current contracts for vessels and MODUs are required to support Woodside in the event of an emergency.
- Leverage mutual aid arrangements such as the AEP MOU for vessel and MODU support.
- Woodside Planning and Logistics, and Safety Officers (on-Roster/Call 24/7) which can articulate need for, and deliver Woodside support, in key delivery tasks including sitting with potential outside operators.
- Ongoing strategic industry engagement and collaboration with NOPSEMA to work toward time reductions in regulatory approvals for emergency events.

Woodside has identified three safety case revision development and submission scenarios for a MODU and plotted these alongside the relief well preparation activities in Figure 6-3. The assumptions for each of the cases are detailed in subsequent Table 6-3.

The MODUs screened for contingency relief well drilling all operate under an Accepted base Safety Case. A relief well Safety Case Revision would leverage the previously accepted Safety Case Revision for the Okha FPSO Facility Operations, including the associated site-specific well hazards. As such, there is less new detail for the regulator to review and should present a short review timeframe with no impact expected to the commencement of relief well drilling activities.

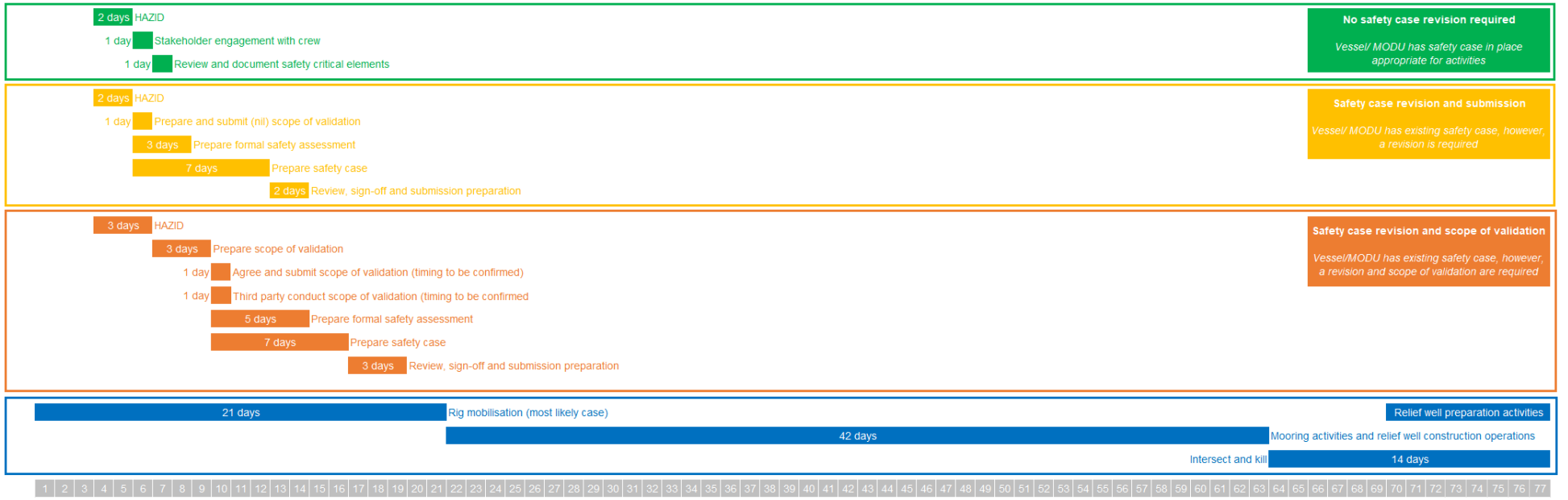

Figure 6-3: Timeline showing safety case revision timings alongside other relief well preparation activity timings for Okha FPSO Facility Operations (based on Lambert LH3 Well)

Table 6-3: Safety case revision conditions and assumptions

Case	No safety case revision required	Safety case revision and submission	Safety case revision and scope of validation
Description	Vessel/MODU has a safety case in place appropriate for activities.	Vessel/MODU has an existing safety case, however, a revision is required.	Vessel/MODU has an existing safety case, however, a revision is required plus scope of validation.
Conditions/ assumptions	Assumes that existing vessel/MODU safety case covers working under the same conditions or the loss of containment is not severe enough to result in any risk on the sea surface.	Safety case timing assumes vessel/MODU selected and crew and available for workshops and safety case studies.	Safety case timing assumes vessel/ MODU selected and crew and available for workshops and safety case studies.
		Assumes nil scope of validation. This assumes that the vessel for source control allows for working in a hydrocarbon environment and control measures are already in place in the existing safety case. For MODU, it assumes that the relief well equipment is already part of the MODU facility and MODU safety case.	Validation will be required for new facilities only. The time needed for the validator to complete the review (from the last document received) and prepare validation statement is undetermined. This is not accounted for here as the safety case submission is not dependent on the validation statement, however the safety case acceptance is.
		Assumes safety case preparation is undertaken 24/7.	Assumes safety case preparation is undertaken 24/7.

6.2.3 Source Control – Control Measure Options Analysis

The assessment described in Section 6.2.1, 6.2.2 and 6.2.3 outline the primary and alternate approach respectively that Woodside would implement for relief well drilling.

Woodside has outlined the options considered against the activation, mobilisation (improved options), deployment (alternate and additional options) process described in Section 2.1.1 that provides an evaluation of:

- predicted cost associated with adopting the option
- predicted change/environmental benefit
- predicted effectiveness/feasibility of the option

Alternative, Additional and Improved options have been identified and assessed against the base capability described in Section 5 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical.

- Alternative options, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control.
- Additional control measures are evaluated in terms of their ability to reduce an impact or risk when added to the existing suite of control measures.
- Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility

Options where there is not a clear justification for their inclusion or exclusion may be subject to a detailed assessment.

6.2.4 Activation/Mobilisation – Control Measure Options Analysis

This section details the assessment of alternative, additional or improved control measures that were considered to ensure the selected level of performance in Section 5.2 reduces the risk to ALARP. The Alternative, additional and improved control measures that have been assessed and selected are highlighted in green and the relevant performance of the selected control is cross referenced. Items highlighted in red have been considered and rejected on the basis that they are not feasible or the costs are clearly grossly disproportionate compared to the environmental benefit.

6.2.4.1 Alternative Control Measures

Alternative Control Measures considered
Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Standby MODU shared for all Woodside activities	A standby MODU shared across all Woodside activities is likely to provide a moderate environmental benefit as it may reduce the 21-day sourcing, contracting and mobilisation time by up to 10 days (to 11 days). This would reduce the volume and duration of release and may reduce impacts on receptors and sensitivities. This may allow the well to be killed up to 10 days sooner (total of 67 days for well kill) and may result in a reduction of up to 11,040 m^3 of Cossack Light Crude for the worst-case credible scenario.	This option is not considered feasible for all Woodside activities as there are a large range of well depths, complexities, geologies and geophysical properties across all Woodside's operations. The large geographic area of Woodside activities also means that the MODU is unlikely to be in the correct location at the right time when required.	Even with costs shared across Woodside operations, the costs (approximately A$1.1 B over the five years) of maintaining a shared MODU are considered disproportionate to the environmental benefit potentially achieved by reducing mobilisation times by up to 10 days.	The costs and complexity of having a MODU and maintaining this arrangement for the duration of the Petroleum Activities Program are disproportionate to the environmental benefit gained above finding a MODU through the MOU agreement for all spill scenarios.	**No**
Standby MODU shared across AEP MOU Titleholders	A standby MODU shared across all titleholders who are signatories to the AEP MOU is likely to provide a minor environmental benefit as it may reduce the 21-day sourcing, contracting and mobilisation time by up to seven days (to 14 days). This would reduce the volume and duration of release and may reduce impacts on receptors and sensitivities. This may result in a reduction of up to 7,728 m^3 of Cossack Light Crude for the worst-case credible scenario.	This option is not considered feasible for a number of Titleholders due to the remote distances in Australia as well as a substantial range of well depths, types, complexities, geologies and geophysical properties across a range of Titleholders	As the environmental benefit is only considered minor and the reduction in timing would only be for the mobilisation period (reduction from 21 days to 14 days) the costs are considered disproportionate to the minor benefit gained.	The costs and complexity of having a MODU and maintaining a shared arrangement for the duration of the Petroleum Activities Program are disproportionate to the environmental benefit gained above finding a MODU through the MOU agreement for all spill scenarios.	**No**

6.2.4.2 Additional Control Measures

Additional Control Measures considered
Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Implement and maintain minimum standards for Safety Case development	Woodside's contingency planning consideration would be to source a rig from outside Australia with an existing Safety Case. This would require development and approval of a safety case revision for the rig and activities prior to commencing well kill operations.	This option is considered feasible and would require Woodside to develop minimum standards for safe operations for relevant Safety Case input along with maintaining key resources to support review of Safety Cases. Woodside would not be the operator for relief well drilling and would therefore not develop or submit the Safety Case revision.	Woodside has outlined control measures and performance standards regarding template Safety Case documentation and maintenance of resources and capability for expedited Safety Case review.	This option has been selected based on its feasibility, low cost and the potential environmental benefits it would provide.	**Yes**

		Woodside's role as Titleholder would be to provide minimum standard for safe operations that MODU operators would be required to meet and/or exceed.			

6.2.4.3 Improved Control Measures

Improved Control Measures considered
Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Monitor internal drilling programs for rig availability	Woodside may be conducting other campaigns that overlap with the Petroleum Activities Program, potentially providing availability of a relief well drilling rig within Woodside. The environmental benefit of monitoring other drilling programs internally is for Woodside to understand what other rigs may be rapidly available for relief well operations if required, potentially reducing the time to drill the relief well, resulting in less hydrocarbon to the environment.	Woodside monitors vessel and MODU availability through market intelligence services for location. Woodside will continually monitor other drilling and exploration activities within Australia and as available throughout the region to track rigs and explore rig availability during well intervention operations.	Associated cost of implementation is minimal to the environmental benefit gained. Woodside has outlined control measures and performance standards.	This option is a low-cost control measure with potential to reduce the volume of hydrocarbon released to the environment.	**Yes**
Monitor external activity for rig availability	The environmental benefit achieved by monitoring drilling programs and rig movements across industry provides the potential for increased availability of suitable rigs for relief well drilling. Additional discussions with other Petroleum Titleholders may be undertaken to potentially gain faster access to a rig and reduce the time taken to kill the well and therefore volume of hydrocarbons released.	Woodside will source a relief well drilling rig in accordance with the AEP MOU on rig sharing in the unlikely event this is required. Commercial and operational provisions do not allow WEL to discuss current and potential drilling programs in detail with other Petroleum Titleholders.	Associated cost of implementation is moderate to the environmental benefit gained. Woodside will continually engage with other Titleholders and Operators regarding activities within Australia and as available throughout the region to track rigs and explore rig availability during well intervention operations.	This option is a low-cost control measure with potential to reduce the volume of hydrocarbon released to the environment.	**Yes**
Monitor status of Registered Operators/ Approved Safety cases for rigs	Woodside can monitor the status of Registered Operators for rigs operating within Australia (and therefore safety case status) on a monthly basis. This allows for a prioritised selection of rigs in the event of a response with priority given to those with an existing safety case.	The environmental benefit of monitoring rigs is for Woodside to understand what other rigs may be rapidly available for relief well operations if required, potentially reducing the time to drill the relief well, resulting in less hydrocarbon to the environment.	The cost is minimal.	This option is a low-cost control measure with potential to reduce the volume of hydrocarbon released to the environment.	**Yes**

6.2.5 Deployment Options Analysis

6.2.5.1 Alternative Control Measures

Alternative Control Measures considered
Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical alternative control measures identified					

6.2.5.2 Additional Control Measures

Additional Control Measures considered
Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Pre-drilling top-holes	This option represents additional environmental impacts associated with discharge of additional drill cuttings and fluids along with benthic habitat disturbance. It is also not expected to result in a significant decrease in relief well timings	This option is not considered feasible due to the uncertainties related to the location and trajectory of the intervention well, which may vary according to the actual conditions at the time the loss of containment event occurs. Additionally, there is only expected to be a minor reduction in timing for this option of 1-2 days based on the drilling schedule. Duration to drill and kill may be reduced by 1-2 days, but top-hole may have to be relocated, due to location being unsafe or unsuitable and further works will be required each year to maintain the top holes.	Utilising an existing MODU and pre-drilling top-hole for relief well commencement would significantly increase costs associated the Petroleum Activities Program. Estimated cost over the program's life is approx. A$1.6 M per day over the PAP based on 2-4 days of top-hole drilling (plus standby time) for each top-hole drilled.	This option would not provide an environmental benefit due to the additional environmental impacts coupled with a lack of improved relief well timings.	**No**
Purchase and maintain mooring system	Purchasing and maintaining a mooring system could provide a moderate environmental benefit as it may reduce equipment sourcing time. However, due to the continued need for specialists to install the equipment plus sourcing a suitable vessel, the timeframe reduction would be minimal.	Woodside is not a specialist in installing and maintaining moorings so would require specialists to come in to install the moorings and would also require specialist vessels to be sourced to undertake the work.	The cost of purchasing, storing and maintaining pre-lay mooring systems with anchors, chains, buoys and ancillary equipment is considered grossly disproportionate to the environmental benefit gained.	This option would not provide an environmental benefit as timeframe reductions would be minimal.	**No**
Contract in place with Wild Well Control and Oceaneering	Woodside has an agreement in place with Wild Well Control Inc and Oceaneering to provide trained personnel in the event of an incident. This will ensure that competent personnel are available in the shortest possible timeframe.	Having contracts in place to access trained, competent personnel in the event of an incident would reduce mobilization times. This option is considered reasonably practicable.	Minimal cost implications – Woodside has standing contract in place to provide assistance across all activities.	This control measure is adopted as the costs and complexity are not considered disproportionate to any environmental benefit that might be realised.	**Yes**

6.2.5.3 Improved Control Measures

Improved Control Measures considered
Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Maintaining relief well drilling supplies	There is not predicted to be any reduction in relief well timing or spill duration from Woodside maintaining stocks of drilling supplies (mud, casing, cement, etc.)	It would be feasible to source some relief well drilling supplies such as casing but the actual composition of the cement and mud required will need to be specific to the well. This option is also not deemed necessary as the lead time for sourcing and mobilising these supplies is included in the 21 days for sourcing and mobilising a rig.	The capital cost of Woodside purchasing relevant drilling supplies is expected to be approximately $600K with additional costs for storage and ongoing costs for replenishment. These costs are considered disproportionate to the environmental benefit gained.	This option would not provide an environmental benefit.	**No**

6.2.6 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- alternative
  - none selected

- additional
  - implement and maintain minimum standards for Safety Case development
  - contract in place with Wild Well Control and Oceaneering to supply trained, competent personnel
- improved
  - monitor internal drilling programs for MODU availability
  - monitor external activity for MODU availability
  - monitor status of registered operators / approved Safety Cases for MODUs.

6.3 Surface Dispersant Application – ALARP Assessment

Alternative, additional and improved options have been identified and assessed against the base capability described in Section 5.3. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.3.1 Existing capability – Surface Dispersant Application

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below are displayed as ranges from lower to upper to incorporate operational factors such as weather, daylight, crew/vessel/aircraft location and duties prior to deployment, survey or classification society inspection requirements for vessels, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisioning, and other similar logistics and operational limitations that are beyond Woodside's direct control.

Table 6-4: Existing Capability – Surface Dispersant Application

E	Existing Capability													
E1	Existing level of surface dispersant application capability available – Aerial Dispersant Application (m^3)													
Existing capability - Surface Dispersant Application		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
	By Volume – m^3												
E1.1	Predicted oil contacted by surface dispersant application (lower) – m^3	40	80	310	310	310	310	310	2,170	2,170	2,170	8,680	8,680
E1.2	Predicted oil dispersed by surface dispersant application (lower) – m^3	28	57	220	220	220	220	220	1,541	1,541	1,541	6,163	6,163
E1.3	Predicted oil contacted by surface dispersant application (upper) – m^3	100	1263	1263	1263	1263	1263	1263	10,838	11,700	12,563	40,950	40,950
E1.4	Predicted oil dispersed by surface dispersant application (upper) – m^3	112	1414	1414	1414	1414	1414	1414	12,141	13,108	14,074	45,876	45,876
E1.5	Dispersant delivery available (lower) – m^3	4	8	31	31	31	31	31	217	217	217	868	868
E1.6	Dispersant delivery available (upper) – m^3	8	101	101	101	101	101	101	867	936	1,005	3,276	3,276
	By Surface Area– km^2												
E1.7	Predicted surface area treated by surface dispersant application (lower) – km^2	3	6	9	9	9	9	9	63	63	63	252	252
E1.8	Predicted surface area treated by surface dispersant application (upper) – km^2	8	20	20	20	20	20	20	220	224	228	784	784
E2													
	By Volume – m^3												
E2.1	Predicted oil contacted by surface dispersant application (lower) – m^3	0	50	100	100	200	200	200	1,500	2,100	2,100	8,400	8,400
E2.2	Predicted oil dispersed by surface dispersant application (lower) – m^3	0	36	71	71	142	142	142	1,065	1,491	1,491	5,964	5,964
E2.3	Predicted oil contacted by surface dispersant application (upper) – m^3	0	376	752	752	752	1128	1128	7,895	7,895	7,895	31,579	31,579
E2.4	Predicted oil dispersed by surface dispersant application (upper) – m^3	0	280	560	560	560	840	840	5,882	5,882	5,882	23,526	23,526
E2.5	Dispersant delivery available (lower) – m^3	0	5	10	10	20	20	20	150	210	210	840	840
E2.6	Dispersant delivery available (upper) – m^3	0	20	40	40	40	60	60	420	420	420	1,680	1,680
	By Surface Area – km^2												
E2.7	Predicted surface area treated by surface dispersant application (lower) – km^2	0	1	2	2	4	4	4	30	42	42	168	168
E2.8	Predicted surface area treated by surface dispersant application (upper) – km^2	1	2	4	4	4	6	6	42	42	42	168	168

The figures above for E1 - Aerial Dispersant Application and E2 – Vessel Dispersant Application show the predicted surface oil contacted by dispersant spraying (E1.1 (lower), E1.3 (upper) and E2.1 (lower) and E2.3 (upper)) which are intended to show the volume of dispersant sprayed from available platforms contacting the floating oil. Woodside has assumed a 50-75% encounter rate of sprayed dispersant to oil.

The figures also show the predicted oil dispersed (E1.2 (lower), E1.4 (upper) and E2.2 (lower) and E2.4 (upper)) which is intended to show the effectiveness of dispersant (based on laboratory results where available) on contacted oil, along with the predicted encounter rate of dispersant sprayed to oil contacted.

6.3.2 Response Planning: Okha FPSO Facility Operations – vessel cargo tank rupture (MEE-05)

Modelling results at defined response thresholds (>50 g/m^2 and <10,000 cSt), where surface dispersants are likely to be effective, indicate that surface hydrocarbons arising from the cargo tank loss of containment scenario (MEE-05) are expected to be available for surface dispersant operations on day 1 (9 km^2), day 2 (15 km^2) and day 3 (14 km^2) only. Whilst floating hydrocarbons are predicted to remain within the Zone of Application (ZoA) (see Figure 2-6), modelling predicts that surface hydrocarbons will fall below the minimum thresholds for feasible surface dispersant application (50 g/m^2) from day 4. No floating hydrocarbons at feasible thresholds for surface dispersant application are predicted for MEE-01. The ZoA is based on the following criteria:

- 10 km from Commonwealth Marine Parks (excluding 'Multiple Use Zones')
- 10 km from State Marine Parks
- 10 km from Heritage List areas
- >20 m water depth
- 4 km from State Waters
- Within the Mainland Australian EEZ
- Avoiding sensitive reefs and shoals

To remove the surface hydrocarbons before shoreline contact would require the treatment of the floating hydrocarbons that meet the minimum threshold of 50 g/m^2 and maximum viscosity of 10,000 cSt whilst the oil remains within in the ZoA (see Figure 2-6) i.e. 9 km^2 (2,251 m^3) on day 1, 15 km^2 (1,633 m^3) on day 2 and 14 km^2 (1,261 m^3). Thereafter floating hydrocarbons are predicted to fall below feasible thresholds. This would require 2-19 FWADC able to fly 3-4 sorties per day, 0-3 high-capacity aircraft plus up to 6 surface dispersant application vessels. This capability is not available within Australia and would not be permitted or feasible under safe simultaneous operations (SIMOPS) procedures. Woodside has access to 1-2 FWADC aircraft and 1 surface dispersant application vessel within 24 hours which would target the thickest parts (BAOAC 4-5) at the leading edge of the surface slick and as close to the spill source as is feasible. This approach aims to mitigate the spread of the oil and maximise dispersant effectiveness thus reducing shoreline accumulations. Within 48 hours, if the oil remains within the ZoA and amenable to dispersant, Woodside has access to 2-4 FWADC and 1 high-capacity aircraft per day for the duration of the spill. Further to this, surface dispersant vessel availability increases to 2 by day 2, 4 by day 3 and 6 by day 6. After day 3, surface hydrocarbons no longer meet the minimum concentration threshold.

As spreading and weathering occurs, there will be limitations on available surface area that can be treated. Additionally, aircraft operations from Dampier will have a predicted upper limit of 4 aircraft undertaking approximately 12-16 sorties per day based on aviation operation limitations (daylight operations, transit time to surface hydrocarbons, ground support, turnaround/refuelling times).

Table 6-5: Response Planning Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05) – Release volumes

Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05)		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
	Oil on sea surface												
A	**Total volume of oil released (surface) – m^3**	**30,302**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
B	**Total volume of surface oil remaining after weathering (per day) – m^3**	**4,636**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

A – This volume represents the total volume of hydrocarbons released from the identified Worst-Case Credible discharge (MEE-05). The total volume for this spill is 30,302 m^3 which is released over approximately 24 hours.
B – The Okha FPSO Facility Operations Cossack Light Crude (API 48.1) contains a relatively high proportion (~15.3% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds will persist in the marine environment. Evaporation rates will increase with temperature, but in general about 52.2% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 20.5% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further 12 % should evaporate over several days (265 °C < BP < 380 °C).

Table 6-6: Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05) – Treatable hydrocarbons

Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05)		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
C	**Treatable hydrocarbons following weathering**												
C1	**Total volume of surface oil >50 g/m^2 – m^3**	**2,251**	**1,633**	**1,261**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C2	**Total surface area >50 g/m^2– km^2**	**9**	**15**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Dispersible hydrocarbons												
C3	**Surface oil volume >50 g/m^2 and viscosity <10,000 cSt – m^3**	**2,251**	**1,633**	**1,261**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C4	**Surface area >50 g/m^2 and viscosity <10,000 cSt – km^2**	**9**	**15**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

C1 – indicates the total remaining volume of hydrocarbons in cubic metres (m^3) on the sea surface above 50 g/m^2. Based on the information outlined in Section 2.3.3 regarding surface concentration thresholds, this is the total volume of oil that can be treated by containment and recovery and surface dispersant spraying operations.
C2 – indicates the total surface area in square kilometres (km^2) of hydrocarbons above 50 g/m^2. This is the total surface area of BAOAC 4 and above that can be treated by containment and recovery and surface dispersant spraying operations.
C3 – indicates the total remaining volume of hydrocarbons in cubic metres (m^3) on the sea surface above 50 g/m^2 and below 10,000 cSt. This is the total volume of oil that can potentially be treated by surface dispersant spraying operations.
C4 – indicates the total surface area in square kilometres (km^2) of hydrocarbons above 50 g/m^2 and below 10,000 cSt. This is the total surface area of BAOAC 4 and above that can potentially be treated by surface dispersant spraying operations.

6.3.2.1 Response Planning Need: Okha FPSO Facility Operations – vessel cargo tank rupture (MEE-05)

Table 6-7: Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05) – Response Planning Need

Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05)		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
D	Response Planning Need												
D1	Bonn Agreement Oil Appearance Code (BAOAC) 5 – Continuous True oil colour												
D1.1	Surface area of BAOAC 5 (>200 g/m^2) – km^2	5	0	0	0	0	0	0	0	0	0	0	0
D1.2	Surface area of BAOAC 5 (>200 g/m^2) and <10,000 cSt – km^2	5	0	0	0	0	0	0	0	0	0	0	0
D1.3	Volume of surface oil BAOAC 5 (>200 g/m^2) – m^3	1706	0	0	0	0	0	0	0	0	0	0	0
D1.4	Volume of surface oil BAOAC 5 (>200 g/m^2) and <10,000 cSt - m^3	1706	0	0	0	0	0	0	0	0	0	0	0
D2	Bonn Agreement Oil Appearance Code (BAOAC) 4 – Discontinuous True oil colour												
D2.1	Surface area of BAOAC 4 (50-200 g/m^2) – km^2	4	15	14	0	0	0	0	0	0	0	0	0
D2.2	Surface area of BAOAC 4 (50-200 g/m^2) and <10,000 cSt – km^2	4	15	14	0	0	0	0	0	0	0	0	0
D2.3	Volume of surface oil BAOAC 4 (50-200 g/m^2) – m^3	545	1,633	1,261	0	0	0	0	0	0	0	0	0
D2.4	Volume of surface oil BAOAC 4 (50-200 g/m^2) and <10,000 cSt - m^3	545	1,633	1,261	0	0	0	0	0	0	0	0	0
D3	Bonn Agreement Oil Appearance Code (BAOAC) 3, 2 and 1 – Sheen												
D3.1	Surface area of BAOAC 3, 2 and 1 (<50 g/m^2) – km^2	39	74	109	64	62	67	73	488	102	55	79	0
D3.2	Volume of surface oil BAOAC 3, 2 and 1 (<50 g/m^2) – m^3	383	759	770	329	309	297	288	1,281	149	80	107	0

Surface dispersant operations guided by monitor and evaluate activities using vessels and aircraft would target the identified heavy (BAOAC 4 and 5) patches of oil to treat larger volumes and surface areas than containment and recovery. It is subject to a temporal window of opportunity prior to spreading below 50 g/m^2 and/or viscosity increasing above 10,000 cSt. Dispersant application would only be undertaken whilst the oil remains in the ZoA as illustrated in Figure 2-6.

The surface area of thickest oil (BAOAC 4 and 5, and <10,000 cSt) available for surface dispersant application for MEE-05 peaks at 15 km^2 on day 2 where surface concentration and viscosity thresholds are met. As noted in Section 6.3.2 above, within 24 hours, Woodside has available 1-2 FWADC aircraft capable of dispersing 28 m^3 to 112 m^3 surface oil and covering an area of 3 km^2 to 8 km^2, plus up to 1 surface dispersant application vessel capable of dispersing 36 m^3 to 72 m^3 oil covering an area of ~1 km^2. Within 48 hours, Woodside has access to 2-4 FWADC and 1 high-capacity aircraft per day for the duration of the spill with a capability of dispersing 57 m^3 to 1,414 m^3 surface oil and covering an area of 6 km^2 to 20 km^2 per day. Further to this, surface dispersant vessel availability increases to 2 by day 2, 4 by day 3 and 6 by day 6. Each vessel is capable of dispersing 36 m^3 to 72 m^3 oil covering an area of ~1 km^2 per day. For the capability available, this is therefore estimated to be 142 m^3 to 840 m^3 covering an area of 4 km^2 to 6 km^2 by day 6. As previously noted, surface dispersant application is not predicted to be feasible beyond days 3 for MEE-05. If ongoing dispersant operations were required and feasible, details of capability from week 2 to month 3 are included in Table 6-4.

Surface dispersant application may limit the feasible spatial area and effectiveness of containment and recovery as these operations cannot be conducted under or near the surface dispersant spraying operations for personnel safety reasons. Furthermore, floating hydrocarbons that have been treated with dispersant cannot then be recovered via containment and recovery techniques. In evaluating the response need for offshore operations, surface dispersant application is prioritised for BAOAC 5.

Woodside acknowledges that the current surface dispersant application capability may not treat the entirety of the oil released alone as no single response strategy or even combination of offshore response strategies will treat or remove 100% of the surface hydrocarbons in either surface area or volume. Woodside would require the inclusion of other response techniques to be initiated concurrently and recognises that multiple passes from aircraft and vessels may be required to meet the required dispersant to oil ratio. Woodside is committed to a realistic, scalable response capability that is commensurate to the level of risk and able to be practically implemented and sustained within the logistical constraints of remote areas.

6.3.3 Surface Dispersant Application – Control measure options analysis

6.3.3.1 Alternative Control Measures

Alternative Control Measures considered
Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Dedicated Response Vessel in region (exclusive to Woodside)	The environmental benefits associated with surface dispersant application are described above. The additional environmental benefit obtained from immediate access to this equipment, permitting deployment as soon as conditions became favourable, would result in a negligible environmental benefit (25-40 m^3 of oil contacted resulting in approximately 12-26 m^3 of oil treated) based on one operation.	Chartering and equipping additional vessels on standby has been considered. The option is reasonably practicable but the sacrifice (charter costs and organisational complexity) is significant, particularly when compared with the anticipated availability of vessel and FWADC resources which have a similar dispersant delivery capacity and are available from Day 2 to treat the spill. The effectiveness of this control (weather dependency, availability and survivability) is rated as very low.	The cost A($15 m per annum for the PAP) and organisational complexity of employing a dedicated response vessel is considered disproportionate to the minor environmental benefit to be realised by implementing this control.	This option is not adopted as it has low effectiveness and cost is disproportionate to the minimal potential environmental benefit.	**No**
Dedicated Response Vessel in region (shared resource)	The environmental benefit would be similar to that described above for Woodside integrated fleet vessels.	Additional resources and capability can be contracted should the need arise, and dispersant build-up is capable of satisfying additional demand.	The cost and complexity of implementing and maintain this alternative control measure is considered high given the predicted effectiveness. Even with consideration of shared costs, the minor benefit of this control measure does not justify the cost.	This option is not adopted as the complexity and cost are disproportionate to the minimal potential environmental benefit.	**No**

6.3.3.2 Additional Control Measures

Additional Control Measures considered
Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Lease/purchase additional spray systems and/or dispersant stocks (based at Exmouth/ Dampier)	Purchase of additional system(s) and/or dispersant stocks would not provide a significant environmental benefit compared to the current capability in place.	Time to set up and mobilise a marine charter vessel is ~10 days, at which point existing surface dispersant application systems are available for loading onto vessels. Adding additional spray systems would allow for extra surface dispersant application capacity but is unlikely to reduce deployment times for this strategy.	For the WCCS, additional surface dispersant (vessel) spray systems and large quantities of dispersant are already available through AMOSC, AMSA and OSRL therefore the cost is considered disproportionate to the minor benefit gained.	This option is not adopted as the current capability meets the need.	**No**
Train additional Woodside personnel in Exmouth to coordinate vessel dispersant application	Limited environmental benefit to be gained by training additional personnel.	Current capability meets need. Woodside has a pool of trained, competent offshore responders / team leaders at strategic locations to ensure timely and sustainable response. Additional personnel are available through current contracts with AMOSC and OSRL and agreements with AMSA. Marine standards & guidelines ensure vessel masters are competent for their roles. Regular audits of oil spill response organisations ensure training and competency is maintained.	Minor additional cost regarding training and maintenance of competency.	This option is not adopted as the current capability meets the need.	**No**

6.3.3.3 Improved Control Measures

Improved Control Measures considered *Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
Locate vessel spraying equipment on additional in-field support vessel(s)	This option may achieve minor incremental improvements in surface oil and residual oil volumes similar to those described for integrated fleet vessels. However, given the likely vessel re-supply times involved to/from the offshore spill location, this option is unlikely to realise material environmental benefits additional the capability selected.	Woodside currently has dispersant spray systems pre-located on vessels used in-field during cargo transfer activities. Consideration of equipping additional vessels with similar equipment was made but is not being carried through to implementation.	The option is reasonably practicable and the cost (charter and operational/maintenance costs) is expected to be moderate, particularly when compared with the ability to rapidly commence spraying operations, subject to safety considerations but Woodside considers the existing control measures to be sufficient for the need.	This option is not adopted as the current capability meets the need.	**No**

6.3.4 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- alternative
  - none selected
- additional
  - none selected
- improved
  - none selected.

6.4 Containment and Recovery – ALARP Assessment

Alternative, additional and improved options have been identified and assessed against the base capability described in Section 5.4. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.4.1 Existing Capability - Containment and Recovery

Woodside's exiting level of capability is based on internal and third-party resources that are available 24 hours/7 days. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

Although modelling predicts no surface oil available for recovery from Day 3 (MEE-05) and no surface oil at feasible response thresholds is predicted for MEE-01, containment and recovery is retained as a response strategy that may be effective in the event of a spill, subject to the operational NEBA.

Table 6-8: Existing Capability – Containment and Recovery

E	Existing Capability													
E3	Existing level of containment and recovery capability available (m^3 recovered per day)													
Existing capability – Containment and Recovery		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
	By Volume – m^3												
E3.1	Predicted oil recovered by containment and recovery (lower) – m^3	0	23	23	34	45	56	68	473	630	630	2,520	2,520
E3.2	Predicted oil recovered by containment and recovery (upper) – m^3	68	135	203	270	405	405	405	3,915	4,725	4,725	18,900	18,900
	By Surface Area– km^2												
E3.3	Predicted surface area treated by containment and recovery (lower) – km^2	0	1	1	1	2	2	3	19	25	25	101	101
E3.4	Predicted surface area treated by containment and recovery (upper) – km^2	1	2	3	4	5	5	5	52	63	63	252	252

For E3 – Containment and Recovery, the range of figures shows the predicted recovery rates of surface oil at 50 g/m² for the lower figures and 200 g/m² for the upper figures using conventional booming systems in a J or U configuration with an encounter rate of 25-50% surface oil meaning 75%-50% of the area within the booming system has surface oil that is not within threshold concentrations <50 g/m²). All figures rounded to nearest whole m^3 or km^2.

6.4.2 Response Planning: Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05)

Deterministic modelling for fastest shoreline contact at >100 g/m² predict first shoreline impact at Barrow Island within 7 days (42 m^3) (MEE-05). Modelling results at defined response thresholds (>50 g/m²) where containment and recovery is likely to be effective indicate that the surface release from the vessel cargo tank rupture scenario is expected to be available for containment and recovery operations for up to 3 days. From approximately day 4, modelling predicts surface hydrocarbons will no longer be present at minimum thresholds for feasible containment and recovery operations (>50 g/m²). Viscosity alone is unlikely to prevent containment and recovery operations, but very high viscosity combined with low surface concentrations (<50 gm²) are unlikely to continue to provide a net environmental benefit.

Table 6-9: Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05) – Release volumes

Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05) – Containment and Recovery		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
	Oil on sea surface												
A	Total volume of oil released (surface) – m^3	30,302	0	0	0	0	0	0	0	0	0	0	0
B	Total volume of surface oil remaining after weathering (per day) – m^3	4,636	0	0	0	0	0	0	0	0	0	0	0

A – This volume represents the total volume of hydrocarbons released from the identified Worst-Case Credible discharge. The total volume for this spill is released over approximately 24 hours at a rate of 1263 m^3 / hr (30,302 m^3 in total).
B – The Okha FPSO Facility Operations Cossack Light Crude (API 48.1) contains a relatively high proportion (~15.3% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds will persist in the marine environment. Evaporation rates will increase with temperature, but in general about52.2% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 20.5% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further12.0% should evaporate over several days (265 °C < BP < 380 °C).

Table 6-10: Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05)– Treatable hydrocarbons

Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05)		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
C	**Treatable hydrocarbons following weathering**												
C1	**Total volume of surface oil >50 g/m^2 – m^3**	**2,251**	**1,633**	**1,261**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
C2	**Total surface area >50 g/m^2– km^2**	**9**	**15**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

C1 – indicates the total remaining volume of hydrocarbons in cubic metres (m^3) on the sea surface above 50 g/m^2. Based on the information outlined in Section 2.3.1.1 regarding surface concentration thresholds, this is the total volume of oil that can be treated by containment and recovery and surface dispersant spraying operations.
C2 – indicates the total surface area in square kilometres (km^2) of hydrocarbons above 50 g/m^2. This is the total surface area of BAOAC 4 and above that can be treated by containment and recovery and surface dispersant spraying operations.

6.4.2.1 Response Planning Need: Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05) – Summary

Offshore response operations will always be guided by Operational Monitoring to target the thickest part of the slick, typically BAOAC 5 – continuous true oil colour with a surface oil concentration >200 g/m^2 and BAOAC 4 – discontinuous true oil colour with a surface oil concentration between 50 and 200 g/m^2. For a surface release, the thickest oil is typically in the leading edge of the slick, driven by wind and currents. As the spill continues to weather and spread over a number of days, the surface concentration and surface area of continuous oil colour spreads and reduces to discontinuous true oil colour and finally sheen as shown above.

The response need is calculated from the surface area and volume of treatable hydrocarbons following weathering as outlined in Table 6-10 above. While surface dispersant operations target the leading edge of the slick where surface concentration and viscosity thresholds are met, containment and recovery operations would be deployed behind the surface dispersant application area to target discrete patches of thick oil at BAOAC 4 and 5 and remaining oil that is not dispersed.

Table 6-11: Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05) – Response Planning Need

Okha FPSO Facility Operations vessel cargo tank rupture (MEE-05)		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
D	**Response Planning Need**												
D1	**Bonn Agreement Oil Appearance Code (BAOAC) 5 – Continuous True oil colour**												
	Surface area of BAOAC 5 (>200 g/m^2) – km^2	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Volume of surface oil BAOAC 5 (>200 g/m^2) – m^3	**1,706**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
D2	**Bonn Agreement Oil Appearance Code (BAOAC) 4 – Discontinuous True oil colour**												
	Surface area of BAOAC 4 (50-200 g/m^2) – km^2	**4**	**15**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
	Volume of surface oil BAOAC 4 (50-200 g/m^2) – m^3	**545**	**1,633**	**1,261**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
D3	**Bonn Agreement Oil Appearance Code (BAOAC) 3, 2 and 1 – Sheen**												
	Surface area of BAOAC 3, 2 and 1 (<50 g/m^2) – km^2	**39**	**74**	**109**	**64**	**62**	**67**	**73**	**488**	**102**	**55**	**79**	**0**
	Volume of surface oil BAOAC 3, 2 and 1 (<50 g/m^2) – m^3	**383**	**759**	**770**	**329**	**309**	**297**	**288**	**1,281**	**149**	**80**	**107**	**0**

Offshore response operations will always be guided by monitor and evaluate and operational monitoring activities to target the thickest part of the slick, typically BAOAC 5 – continuous true oil colour with a surface oil concentration >200 g/m^2 and BAOAC 4 – discontinuous true oil colour with a surface oil concentration between 50 and 200 g/m^2. For a surface release, the thickest oil is typically in the leading edge of the slick, driven by wind and currents. As the spill continues to weather and spread over a number of days and weeks, the surface concentration and surface area of continuous oil colour spreads and reduces to discontinuous true oil colour and finally sheen as shown above.

The response need is calculated from the surface area and volume of treatable hydrocarbons following weathering as outlined in Table 6-10. While surface dispersant operations target the leading edge of the slick where surface concentration and viscosity thresholds are met, containment and recovery operations would be deployed behind the surface dispersant application area to target discrete patches of thick oil at BAOAC 4 and 5 and remaining oil that is not dispersed.

The volume of thickest oil (BAOAC 4 and 5) available for containment and recovery peaks at approximately 2,251 m^3 on day 1 and, for surface area, peaks at 15 km^2 on day 2 where surface concentration thresholds are met. Within 24 hours, Woodside has available 1 containment and recovery operation capable of recovering up to 68 m^3 surface oil covering an area of 1 km^2. Availability of containment and recovery operations increases to 2 by day 2, 3 by day 3, 4 by day 4, and 6 by day 5. Thus, by day 5, the recovery capacity is estimated to be up to 405 m^3 covering an area of 6 km^2. As described in Table 4 2 and shown above, containment and recovery is not predicted to be feasible beyond day 2 for MEE-05. If required, details of ongoing capability from week 2 to month 3 are included in Table 6-8.

Woodside acknowledges that the current containment and recovery capability may not treat the entirety of the oil released alone as no single response strategy or even combination of offshore response strategies will treat or remove 100% of the surface hydrocarbons in either surface area or volume. Woodside would require the inclusion of other response techniques to be initiated concurrently and recognises that multiple passes from vessels may be required to recover a greater proportion of the oil. Woodside is committed to a realistic, scalable response capability that is commensurate to the level of risk and able to be practically implemented and sustained within the logistical constraints of remote areas.

Woodside has considered pre-positioning additional resources and including additional capability on vessels and shore locations, that would allow for the treatment of some additional surface hydrocarbons on Days 1 and 2, thereby potentially limiting the migration of surface hydrocarbons to RPA locations. These options are considered below with selected control measures implemented to improve the capability.

Implementing further capability is not expected to provide a significant environmental benefit as only a minor portion of the available surface hydrocarbons would be treated using this technique.

6.4.3 Containment and Recovery – Control Measure Options Analysis

6.4.3.1 Alternative Control Measures

Alternative Control Measures considered
Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Dedicated Response Vessel in region (exclusive to Woodside)	The environmental benefits associated with containment and recovery are described above. The additional environmental benefit obtained from immediate access to this equipment, permitting deployment as soon as conditions became favourable, would result in a negligible environmental benefit – 11.25-67.5 m^3 of oil recovered per operating unit per day.	Chartering and equipping additional vessels on standby has been considered. The option is reasonably practicable but the sacrifice (charter costs and organisational complexity) is significant, particularly when compared with the anticipated effectiveness of dispersant operations to treat the spill which are available from Day 2. The effectiveness of this control (encounter rate, weather dependency, availability) is rated as very low.	The cost (A$15 m per annum for the PAP) and organisational complexity of employing a dedicated response vessel is considered disproportionate to the insignificant environmental benefit to be realised by implementing this control.	This option is not adopted as it has low effectiveness and cost is disproportionate to the minimal potential environmental benefit.	**No**
Dedicated Response Vessel in region (shared resource)	The environmental benefit would be similar to that described above for Woodside integrated fleet vessels.	Additional containment and recovery resources and capability can be contracted should the need arise.	The cost and complexity of implementing and maintain this alternative control measure is considered high given the predicted effectiveness. Even with consideration of shared costs, the minor benefit of this control measure does not justify the cost.	This option is not adopted as it has low effectiveness and cost is disproportionate to the minimal potential environmental benefit.	**No**
Regional oil spill response contractor	This option may achieve minor incremental improvements in surface oil and residual oil volumes similar to those described for integrated fleet vessels. However, given the likely vessel transit times involved to/from the offshore spill location, this option is unlikely to realise material environmental benefits additional the capability selected.	No current private response contracting capability exists that would significantly improve response timing or effectiveness in the Dampier or Exmouth regions.	N/A – not currently feasible	This option is not adopted as it is not currently feasible.	**No**

6.4.3.2 Additional Control Measures

Additional Control Measures considered
Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Train additional Woodside personnel in Exmouth to coordinate containment and recovery operations	Limited environmental benefit to be gained by training additional personnel as the number of operations will be governed by the availability of response vessels.	Current capability meets need. Woodside has a pool of trained, competent offshore responders / team leaders at strategic locations to ensure timely and sustainable response. Additional personnel are available through current contracts with AMOSC and OSRL and agreements with AMSA. Marine standards & guidelines ensure vessel masters are competent for their roles. Regular audits of oil spill response organisations ensure training and competency is maintained.	Minor additional cost regarding training and maintenance of competency.	This option is not adopted as the current capability meets the need.	**No**

6.4.3.3 Improved Control Measures

Improved Control Measures considered
Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Prioritise rapid sweep systems (NOFI Buster series, DESMI Speed Sweep, etc.) for mobilisation	Although each rapid sweep containment and recovery operation could remove an additional 10-45 m^3 per operation per day, the environmental benefit of containment and recovery as a response technique is minor. This response technique is not considered to be as effective as surface dispersant	Rapid sweep systems allow containment and recovery operations to be undertaken at speeds of up to 3 knots. This allows for greater encounter rates and surface coverage. AMOSC has recently purchased a Speed Sweep system and a number of	Additional costs for prioritising rapid sweep systems are negligible	Although containment and recovery remains a low-efficiency response technique, this control measure is adopted as the costs and complexity are not considered disproportionate to any environmental benefit that might be realised.	**Yes**

from service providers	application to prevent hydrocarbons reaching the shore.	NOFI systems are available through Mutual Aid arrangements.			
Prioritise active booming systems (Ro-skim, etc.) for mobilisation from service providers	Although each active booming system could remove an additional 10-45 m^3 per operation per day, the environmental benefit of containment and recovery as a response technique is minor. This response technique is not considered to be as effective as surface dispersant application to prevent hydrocarbons reaching the shore.	Active booming systems allow containment and recovery operations without the need for an additional skimming system. This allows for greater effectiveness and continued skimming operations. Active booming systems are available through OSRL and Mutual Aid arrangements and would be prioritised for mobilisation.	Additional costs for prioritising active booming systems are negligible	Although containment and recovery remains a low-efficiency response technique, this control measure is adopted as the costs and complexity are not considered disproportionate to any environmental benefit that might be realised.	**Yes**
Pre-position additional containment and recovery equipment (Exmouth)	It is unlikely that faster mobilisation and deployment from Exmouth would significantly increase response effectiveness or removal of oil to create an increased environmental benefit.	Facilities at Exmouth are currently limited by tides and draft for the loading and unloading of vessels with heavy plant and equipment. Access to the Navy Pier to provide an additional loading location is subject to Defence Force approval and cannot be relied upon for rapid approval in the event of an oil spill.	Limited additional cost considerations.	This option is not adopted as the complexity is disproportionate to the minimal potential environmental benefit due to the low efficiency of containment and recovery as a response technique.	**No**
Re-locate containment and recovery equipment on in-field vessels	The additional environmental benefit obtained from faster mobilisation and deployment would be limited by safety considerations during the initial period following the release. Once operations were considered safe, the vessels would increase recovery capacity to 23-90 m^3/day per operation. The limited oil treatment of containment and recovery and expected effectiveness of dispersant application from vessels indicates the preference would be for greater surface dispersant application capability.	Operations close to the release location are unlikely to be feasible during the initial period due to the uncertainty of the situation and potential safety impacts on personnel. Vessels may require time to return to port and load equipment, fuel etc. to allow response duration to be the maximum possible once deployed. Shortening the timeframes for vessel availability would require equipment to be pre-positioned on-board vessels.	The cost and organisational complexity of employing two dedicated response vessels (approximately A$15 m per year per vessel) is considered disproportionate to the limited environmental benefit to be realised by adopting this control	This option is not adopted as the cost is disproportionate to the minimal potential environmental benefit due to the low efficiency of containment and recovery as a response technique.	**No**
Purchase or pre-position larger skimmers	The environmental benefit of containment and recovery for the loss of well control scenario is minor. This response strategy is not considered to be as effective as surface dispersant application to prevent hydrocarbons reaching the shore.	Larger systems such as the DESMI Octopus or Transrec with >200 m^3 per hour capacity, could improve recovery rates, however are not readily available in Australia and not easily compatible with booming, waste and hydraulic power systems. If required and deemed to be of benefit, these systems are available through Service Providers such as OSRL.	Cost of purchasing Octopus system is A$600,000 plus additional transport, training and commissioning costs and ongoing maintenance costs. Cost for pre-positioning in Australia for the life of the asset/activity is greater than the purchase costs.	This option is not adopted as the cost is disproportionate to the minimal potential environmental benefit due to the low efficiency of containment and recovery as a response technique.	**No**

6.4.4 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- alternative
  - none selected
- additional
  - prioritise rapid sweep systems (NOFI buster series, DESMI speed sweep, etc.) for mobilisation from service providers
  - prioritise active booming systems (Ro-Skim, etc.) for mobilisation from service providers
- improved
  - none selected.

6.5 Shoreline Protection and Deflection – ALARP Assessment

Alternative, additional and improved options have been identified and assessed against the base capability described in Section 5.5. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.5.1 Existing Capability – Shoreline Protection and Deflection

Woodside's exiting level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.5.2 Response Planning: Okha FPSO Facility Operations – Shoreline Protection and Deflection

Planning for shoreline protection is based upon identification of Response Protection Areas (RPAs) from deterministic modelling and the logistics associated with deploying protection at these locations. The response planning scenarios indicate that this would require effective mobilisation to priority shorelines and maintenance of protection until monitor and evaluate confirms that the locations were no longer at risk. Woodside has identified the RPAs from modelling results provided from specific scenarios. The full list of RPAs predicted to be contacted by oil above response thresholds are detailed in Table 3-1.

The control measures selected provide capability to commence mobilisation of shoreline protection equipment within 24 hours (if required). For MEE-01, the deterministic modelling run demonstrating the minimum time to shoreline contact at a threshold of >100 g/m^2 (Q4, Run15), the deterministic run with the greatest number of locations with accumulations at >100 g/m^2 (Q2, Run 2) and the deterministic run with the location with largest accumulation at >100 g/m^2 (Q4, Run 5) have been selected for response planning and are combined in Table 6-12 below. Initial contact is predicted within 19 days at Muiron Islands including MMA and WHA (9 m^3).

For MEE-05, the deterministic modelling run demonstrating the minimum time to shoreline contact at a threshold of >100 g/m^2 (Q2, Run 24), the deterministic run with the greatest number of locations with accumulations at >100 g/m^2 and the deterministic run with the location with largest accumulation at >100 g/m^2 (both Q2, Run 32) have been selected for response planning and are combined in Table 6-13 below. Initial shoreline contact is predicted to occur within 7 days at Barrow Island (42 m^3).

Tactical response plans exist for many of the RPAs identified. The plans identify values and sensitivities that would be protected at location. Modelling does not predict that all priority protection shorelines will be at risk of contact at the same time. Therefore, to allow for the best use of available shoreline protection and deflection resources, monitor and evaluate will inform the response, targeting RPAs where contact is predicted above response threshold levels.

Table 6-12: Response Planning – Shoreline Protection and Deflection (MEE-01)

Okha FPSO Facility Operations – loss of well containment (MEE-01)		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
	Oil on shoreline (from deterministic modelling) m^3	0	0	0	0	0	0	0	0	11	0	79	17
	Capability Required												
A1	Number of RPAs contacted (> 100 g/m^2) – MEE-01	0	0	0	0	0	0	0	0	2	0	6	3
B	Capability Available (operations per day)												
B1	SPD operations available – per day (lower)	0	15	15	20	20	20	20	70	70	70	330	330
B2	SPD operations available – per day (upper)	1	15	15	20	20	20	20	84	84	84	336	336
C	Capability Gap (operations per day)												
C1	SPD operations gap – per day (lower)	0	0	0	0	0	0	0	0	0	0	0	0
C2	SPD operations gap – per day (upper)	0	0	0	0	0	0	0	0	0	0	0	0

A1 and A2– the number of Response Protection Areas contacted by surface hydrocarbons above 100 g/m^2
B1 and B2 – the upper and lower number of shoreline protection and deflection operations available (based on response planning assumptions in Section 5.5),
C1 and C2 – the gap between the upper and lower number of shoreline protection and deflection operations required in A1, A2 and A3 compared to the operations available in B1 and B2

Table 6-13: Response Planning – Shoreline Protection and Deflection (MEE-05)

Okha FPSO Facility Operations – cargo tank loss of containment (MEE-05)		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3
	Oil on shoreline (from deterministic modelling) m^3	0	0	0	0	0	0		169	34	10	18	0
	Capability Required												
A1	Number of RPAs contacted (> 100 g/m^2) – MEE-05	0	0	0	0	0	0	0	2	1	2	2	0
B	Capability Available (operations per day)												
B1	SPD operations available – per day (lower)	0	15	15	20	20	20	20	70	70	70	330	330
B2	SPD operations available – per day (upper)	1	15	15	20	20	20	20	84	84	84	336	336
C	Capability Gap (operations per day)												
C1	SPD operations gap – per day (lower)	0	0	0	0	0	0	0	0	0	0	0	0
C2	SPD operations gap – per day (upper)	0	0	0	0	0	0	0	0	0	0	0	0

A1 and A2– the number of Response Protection Areas contacted by surface hydrocarbons above 100 g/m^2
B1 and B2 – the upper and lower number of shoreline protection and deflection operations available (based on response planning assumptions in Section 5.5),
C1 and C2 – the gap between the upper and lower number of shoreline protection and deflection operations required in A1, A2 and A3 compared to the operations available in B1 and B2

A shoreline protection and deflection response would be launched when monitor and evaluate and operational monitoring indicate that the spill is heading towards RPA(s) and there is sufficient time for deployment prior to shoreline contact. Sites would be prioritised for protection based on sensitivity together with prediction of the most rapid and/or highest magnitude accumulations. The response need is calculated from the number of sites predicted to be contacted at >100 g/m^2.

Within 24 hours, Woodside has 1 protection and deflection operation available. Within 48 hours, Woodside can mobilise up to 15 response operations comprising its team of trained response personnel from Karratha (the 'Burrup Response Team') and appropriate shoreline response equipment. This capability increases to 20 operations by day 4. Shoreline contact at response thresholds for MEE-01 is predicted between week 3 and month 3 and, for MEE-05, between day 7 and month 2. Capability availability information up to month 3 is detailed above in Table 6-12 and Table 6-13 above. It should be noted that response operations are able to be repeatedly redeployed throughout the response to allow protection of new priority locations as/ if they become at risk of contact if the oil continues to migrate.

The full list of shoreline RPAs is included in Table 3-1 and the full suite of Tactical Response Plans (TRPs) available for the identified RPAs is listed in Tactical Response Plans. These TRPs detail response aims and methods specific to each location. Pre-emptive mobilisation of equipment and personnel would commence as soon as practicable prior to oil contact. Additional resources would be mobilised depending on the scale of the event to increase the length or number of shorelines being protected.

Table 6-14: Indicative Tactical response plan, aims and methods for identified RPAs contacted within 14 days

Tactical Response Plan	Response aims and methods
Barrow and Lowendal Islands	**First response objective:** Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas **Second response objective**: Protection of sensitive areas. Prevent hydrocarbons impact through use of shoreline booms. Areas to protect and formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions **Third response objective**: Pre-clean of potential impact areas (if time allows) using rakes and shovels to move any debris above the high tide line and then segregate appropriately **Fourth response objective**: Recovery of floating oil where possible through the use of skimming systems and other appropriate recovery devices. Although boom formations will deflect most of the spilt hydrocarbon away from sensitive areas, it may be necessary to collect and remove floating oil from additional boom formations to prevent the spreading of oil down a coastline **Fifth response objective:** Clean-up of the shoreline. Manual clean up techniques, use of mechanical recovery methods and techniques where appropriate
Pilbara Islands – Southern Island Group	**First Response objective:** Undertake Monitor and Evaluate strategy – Shoreline assessment techniques to be undertaken. **Second Response objective:** Pre-clean of the beach area using rakes and shovels, move any debris on the beach to above the high tide area, above the reach of any floating oil. **Third Response objective:** Shoreline Protection - prevent oil from moving into key sensitive areas within the gulf area by deployment of booms. Deflection & containment methods would be undertaken. **Fourth Response objective:** Recovery of collected oil where possible through the use of skimming systems. Although boom formations will deflect most of the spilt hydrocarbon away from sensitive areas, it may be necessary to collect and remove floating oil from additional boom formations to prevent the spread of oil down the coastline into the Gulf. **Fifth Response objective:** Clean-up of oiled shoreline using manual clean up techniques, predominantly rakes and shovels, with flushing and vacuum skimming if appropriate and required.
Muiron Islands	**First response aim:** Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident **Second response aim**: Pre-clean of potential impact areas (if time allows) using rakes and shovels to move any debris above the high tide line and then segregate appropriately **Third response aim**: Clean-up of the shoreline. Manual clean up techniques, use of mechanical recovery methods and techniques where appropriate **Fourth response aim**: Collection and specialist cleaning/rehabilitation of oiled wildlife

Tactical Response Plan	Response aims and methods
Montebello Island Champagne Bay and Chippendale channel TRP	**First response aim**: Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas. **Second response aim**: Protection of Champagne Bay. Prevent hydrocarbon passing into the inner reaches of Champagne Bay through use of shoreline booms at Chippendale Channel and the south-western sides of Champagne Bay. Formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions. **Third response aim**: Collection and specialist cleaning/rehabilitation of oiled wildlife.
Montebello Island - Claret Bay TRP	**First response objective**: Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas. **Second response objective**: Protection of mangrove within Claret Bay through use of shoreline booms. Formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions. **Third response objective**: Clean-up of the shoreline. Manual clean up techniques, use of mechanical recovery methods and techniques where appropriate.
Montebello Island - Hermite/Delta Island Channel TRP	**First response objective**: Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas. **Second response objective:** Protection of Mansion Bay. Prevent hydrocarbon passing through the channel into Mansion Bay with the use of shoreline booms. Formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions.
Montebello Island - Hock Bay TRP	**First response objective**: Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas. **Second response objective**: Prevent hydrocarbon passing into the inner reaches of Stephenson Channel through use of shoreline booms at Hock Bay. Formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions.
Montebello Island - North and Kelvin Channel TRP	**First response objective**: Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas. **Second response objective**: Prevent hydrocarbon passing through North Channel and Kelvin Channel into the inner areas of the Montebello Islands through use of shoreline booms. Formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions. **Third response objective**: Recovery of floating oil where possible through the use of skimming systems and other appropriate recovery devices. It is necessary to collect and remove floating oil at sea to reduce shoreline impact.

Tactical Response Plan	Response aims and methods
Montebello Island - Sherry Lagoon Entrance TRP	**First response objective**: Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas. **Second response objective**: Prevent hydrocarbon passing into Sherry Lagoon through use of shoreline booms at the entrance. Formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions.
Montebello Island – Stephenson Channel Nth TRP	**First response objective**: Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas **Second response objective**: Prevent hydrocarbon passing into the inner reaches of Stephenson Channel through use of shoreline booms. Formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions. **Third response objective**: Recovery of floating oil where possible through the use of skimming systems and other appropriate recovery devices. It is necessary to collect and remove floating oil at sea to reduce shoreline impact.
Jurabi to Lighthouse Beaches Exmouth	**First response objective:** Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas **Second response objective**: Pre-clean of potential impact areas (if time allows) using rakes and shovels to move any debris above the high tide line and then segregate appropriately **Third response objective**: Clean-up of the shoreline. Manual clean up techniques, use of mechanical recovery methods and techniques where appropriate
Mangrove Bay	**First response objective:** Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas **Second response objective**: Protection of Mangrove Bay Lagoon. Prevent hydrocarbons ingress to lagoons through use of shore sealing booms. Complete northern lagoon first, then southern if required – depending on beach topography and tidal cycle. Formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions **Third response objective**: Pre-clean of potential impact areas (if time allows) using rakes and shovels to move any debris above the high tide line and then segregate appropriately **Fourth response objective**: Recovery of floating oil where possible through the use of skimming systems and other appropriate recovery devices. Although boom formations will deflect most of the spilt hydrocarbon away from sensitive areas, it may be necessary to collect and remove floating oil from additional boom formations to prevent the spreading of oil down a coastline **Fifth response objective**: Clean-up of the shoreline. Manual clean up techniques, use of mechanical recovery methods and techniques where appropriate

Tactical Response Plan	Response aims and methods
Turquoise Bay	**First response objective:** Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas **Second response objective**: Pre-clean of potential impact areas (if time allows) using rakes and shovels to move any debris above the high tide line and then segregate appropriately **Third response objective**: Clean-up of the shoreline. Manual clean up techniques, use of mechanical recovery methods and techniques where appropriate
Yardie Creek	**First response aim:** Ongoing operational monitoring and evaluation of the hydrocarbon spill to adapt aims and response tactics to the evolving nature of the incident and to assist in locating relevant booming areas **Second response aim**: Protection of Yardie Creek entrance through the deployment of protection booming formations. Formation types to deploy will be dependent on the time available until the hydrocarbon impacts the shoreline and local geographical and tidal/weather conditions **Third response aim:** Pre-clean of potential impact areas (if time allows) using rakes and shovels to move any debris above the high tide line along the beach and then segregate appropriately **Fourth response aim**: Recovery of floating oil at Yardie Creek entrance where possible through the use of skimming systems and other appropriate recovery devices **Fifth response aim:** Clean-up of the shoreline. Manual clean up techniques, use of mechanical recovery methods and techniques where appropriate **Sixth response aim**: Collection and specialist cleaning/rehabilitation of oiled wildlife

Pre-emptive mobilisation of equipment and personnel would commence as soon as practicable prior to oil contact. Additional resources would be mobilised depending on the scale of the event to increase the length or number of shorelines being protected.

6.5.3 Shoreline Protection and Deflection – Control Measure Options Analysis

6.5.3.1 Alternative Control Measures

Alternative Control Measures considered *Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
Pre-position equipment at Response Protection Areas (RPAs)	Additional environmental benefit of having equipment prepositioned is considered minor. Equipment is currently available to protect RPAs and additional shorelines, within estimated minimum times until shoreline contact at RPAs, enabling mobilisation of the selected delivery options.	The incremental environmental benefit associated with these delivery options is considered minor and unlikely to reduce the environmental consequence of a significant hydrocarbon release beyond the adopted delivery options. Considering the highly unlikely nature of a significant hydrocarbon release and the costs and organisational complexity associated with prepositioning and maintenance of equipment, the sacrifice is considered disproportionate to the limited environmental benefit that might be realised. Furthermore, these options would conflict with the mutual aid philosophy being adopted under the selected delivery options. The selected delivery options for shoreline protection and deflection meet the relevant objectives of this control measure and do not require prepositioned or additional equipment in Exmouth.	Total cost to preposition protection/ deflection packages at each site of potential impact would be approx. A$6,100 per package per day.	This option is not adopted as the existing capability meets the need.	**No**

6.5.3.2 Additional Control Measures

Additional Control Measures considered *Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
Supplemented stockpiles of equipment in Exmouth to protect additional shorelines	Additional equipment would increase the number of receptor areas that could be protected from hydrocarbon contact. However, current availability of personnel and equipment is capable of protecting up to 30 km of shoreline, commensurate with the scale and progressive nature of shoreline impact. Additional stocks would be made available from international sources if long term up scaling were necessary. A reduction in environmental consequence from a 'B' rating (serious long-term impacts) is unlikely to be realised as a result of having more equipment available locally.	The incremental environmental benefit associated with these delivery options is considered minor and unlikely to reduce the environmental consequence of a significant hydrocarbon release beyond the adopted delivery options. Considering the highly unlikely nature of a significant hydrocarbon release and the costs and organisational complexity associated with prepositioning and maintenance of equipment, the sacrifice is considered disproportionate to the limited environmental benefit that might be realised. Furthermore, these options would conflict with the mutual aid philosophy being adopted under the selected delivery options. The selected delivery options for shoreline protection and deflection meet the relevant objectives of this control measure and do not require prepositioned or additional equipment in Exmouth.	Total cost for purchase supplemental protection and deflection equipment would be approximately. A$455,000 per package.	This option is not adopted as the existing capability meets the need.	**No**
Additional trained personnel	The level of training and competency of the response personnel allows the shoreline protection and deflection operation is delivered with minimum secondary impact to the environment. Training additional personnel does not provide an increased environmental benefit.	Additional personnel required to sustain an extended response can be sourced through the Woodside *People & Global Capability Surge Labour Requirement Plan*. Additional personnel sourced from contracted OSRO's (OSRL/AMOSC) to manage other responders.	Additional Specialist Personnel would cost A$2,000 per person per day.	This option is not adopted as the existing capability meets the need.	**No**

		Response personnel are trained and exercised regularly in shoreline response techniques and methods. All personnel involved in a response will receive a full operational/safety briefing prior to commencing operations.			

6.5.3.3 Improved Control Measures

Improved Control Measures considered *Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
Faster response/ mobilisation time	Given modelling does not predict floating or shoreline impacts at threshold until 7 days (MEE-05) or 19 days (MEE-01), Woodside considers that there is sufficient time for deployment of protection and deflection operations prior to impact.	Response teams, trained personnel, contracted oil spill response service providers, government agencies and the associated mitigation equipment required to enact an initial protection and deflection response will be available for mobilisation within 24-48 hrs of activation. Additional equipment from existing stockpiles and oil spill response service providers can be on scene within days. Hydrocarbons are not predicted to accumulate at threshold until 7 days (MEE-05) or 19 days (MEE-01) therefore allowing enough time to re-locate existing equipment, personnel and other resources to the most appropriate areas.	The cost of establishing a local stockpile of new mitigation equipment (including protection and deflection boom) closer to the expected hydrocarbon stranding areas is not commensurate with the need.	This option is not adopted as the existing capability meets the need.	**No**

6.5.4 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- Alternative
  - None selected
- Additional
  - None selected
- Improved
  - None selected

6.6 Shoreline Clean-up – ALARP Assessment

Alternative, additional and improved options have been identified and assessed against the base capability described in Section 5.6. Those that have been selected for implementation are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.6.1 Existing Capability – Shoreline Clean-up

Woodside's exiting level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.6.2 Response planning: Okha FPSO Facility Operations – Shoreline Clean-up

Woodside has assessed existing capability against the WCCS and has identified that the range of techniques provide an ongoing approach to shoreline clean-up at identified RPAs. Woodside's capability can cover all required shoreline clean-up operations for the PAP.

For MEE-01, the deterministic modelling run demonstrating the minimum time to shoreline contact at a threshold of >100 g/m^2 (Q4, Run15), the deterministic run with the greatest number of locations with accumulations at >100 g/m^2 (Q2, Run 2) and the deterministic run with the location with largest accumulation at >100 g/m^2 (Q4, Run 5) have been selected for response planning and are combined in Table 6-15 below. Initial contact is predicted within 19 days at Muiron Islands including MMA and WHA (9 m^3).

For MEE-05, the deterministic modelling run demonstrating the minimum time to shoreline contact at a threshold of >100 g/m^2 (Q2, Run 24), the deterministic run with the greatest number of locations with accumulations at >100 g/m^2 and the deterministic run with the location with largest accumulation at >100 g/m^2 (both Q2, Run 32) have been selected for response planning and are combined in Table 6-16 below. Initial shoreline contact is predicted to occur within 7 days at Barrow Island (42 m^3).

Due to the time of contact predicted shoreline clean-up and deterministic modelling predicting ongoing stranding after this peak, this response may not be as time critical compared to other response techniques and the scale will depend on the success of other techniques preventing oiling occurring. Further, the potential scale and remoteness of a response coupled with the uncertainty of which locations will be affected precludes the stockpiling or prepositioning of equipment specific to shorelines. The most significant constraint is accommodation and transport of personnel in Dampier to undertake clean-up operations and to manage wastes generated during the response effort. From previous assessment of facilities in the Dampier region, Woodside estimates that current accommodation can cater for a range of 500-700 personnel per day.

Table 6-15 and Table 6-16 below outlines the capability required (volume of oil on the shoreline) against the capability available (number of shoreline clean-up operations that can be mobilised and deployed). This capability is based upon Woodside's access to local response personnel and equipment. In the event of a protracted or worst-case event, Woodside has access to national and international response personnel and equipment which would be scaled to meet the response need. These volumes assume that no offshore mitigations have been applied.

Table 6-15: Response Planning – Shoreline Clean-up (MEE-01)

	Shoreline Clean-up (Phase 2)	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3	Month 4
	Oil on shoreline (from deterministic modelling) m^3													
	Shoreline accumulation (above 100 g/m^2) - m^3	0	0	0	0	0	0	0	0	11	0	79	17	0
	Oil remaining following response operations - m^3	0	0	0	0	0	0	0	0	0	4	-3	33	-13
A	**Capability Required (number of operations)**													
A1	SCU operations required (lower)	0	0	0	0	0	0	0	0	1	0	8	5	-1
A2	SCU operations required (upper)	0	0	0	0	0	0	0	0	2	1	38	25	-7
B	**Capability Available (number of operations)**													
B1	SCU operations available - Stage 2 - Manual (lower)	0	15	15	20	20	20	20	105	105	105	560	560	560
B2	SCU operations available - Stage 2 - Manual (upper)	1	15	15	20	20	20	20	140	140	140	560	560	560
C	**Capability Gap**													
C1	SCU operations gap (lower)	0	0	0	0	0	0	0	0	0	0	0	0	0
C2	SCU operations gap (upper)	0	0	0	0	0	0	0	0	0	0	0	0	0

A1 and A2 – the number of Shoreline Clean-up operations required based on the hydrocarbon volumes ashore above 100 g/m^2
B1 and B2 – the upper and lower number of shoreline clean-up operations available (based on response planning assumptions in Section 5.6),
C1 and C2 – the gap between the upper and lower number of shoreline clean-up operations required in A1 and A2 compared to the operations available in B1 and B2

Table 6-16: Response Planning – Shoreline Clean-up (MEE-05)

	Shoreline Clean-up (Phase 2)	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Week 2	Week 3	Week 4	Month 2	Month 3	Month 4
	Oil on shoreline (from deterministic modelling) m^3													
	Shoreline accumulation (above 100 g/m^2) - m^3	0	0	0	0	0	0	42	110	34	5	18	0	0
	Oil remaining following response operations - m^3	0	0	0	0	0	0	0	0	44	-13	10	1	-1
A	**Capability Required (number of operations)**													
A1	SCU operations required (lower)	0	0	0	0	0	0	0	11	11	0	4	-2	0
A2	SCU operations required (upper)	0	0	0	0	0	0	0	16	16	0	6	-4	0
B	**Capability Available (number of operations)**													
B1	SCU operations available - Stage 2 - Manual (lower)	0	15	15	20	20	20	20	105	105	105	560	560	560
B2	SCU operations available - Stage 2 - Manual (upper)	1	15	15	20	20	20	20	140	140	140	560	560	560
C	**Capability Gap**													
C1	SCU operations gap (lower)	0	0	0	0	0	0	0	0	0	0	0	0	0
C2	SCU operations gap (upper)	0	0	0	0	0	0	0	0	0	0	0	0	0

A1 and A2 – the number of Shoreline Clean-up operations required based on the hydrocarbon volumes ashore above 100 g/m^2
B1 and B2 – the upper and lower number of shoreline clean-up operations available (based on response planning assumptions in Section 5.6),
C1 and C2 – the gap between the upper and lower number of shoreline clean-up operations required in A1 and A2 compared to the operations available in B1 and B2

A shoreline clean-up response would be launched when monitor and evaluate and operational monitoring indicates the RPA(s) at which hydrocarbons have accumulated at thresholds for commencement of feasible shoreline clean-up activities. To be conservative, the response need above is calculated from the number of sites with predicted shoreline accumulations at a threshold of >100 g/m^2 – this is considered to be a hydrocarbon 'stain' per threshold descriptions in Table 5-10. Sites would be prioritised for clean-up based on their sensitivity together with prediction of highest magnitude accumulations.

Within 48 hours, Woodside can mobilise up to 15 response operations comprising its team of trained response personnel from Karratha (the 'Burrup Response Team') and appropriate shoreline response equipment. This capability increases to 20 operations by day 4. Teams would comprise 1 supervisor with 8 personnel/ labour hire up to 2 supervisors with 10 personnel/ labour hire. Each individual is predicted to be able to remove 0.25 m^3 to 1 m^3 oil/ oiled waste per day dependent upon the nature of the shoreline oiling. Shoreline contact at response thresholds for MEE-01 is predicted between week 3 and month 3 and, for MEE-05, between day 7 and month 2. Capability availability information up to month 3 is detailed above in Table 6-15 and Table 6-16 above. It should be noted that response operations are able to be repeatedly redeployed to new locations throughout the response for ongoing clean-up if the oil continues to migrate.

6.6.3 Shoreline Clean-up - Control measure options analysis

6.6.3.1 Alternative Control Measures

Alternative Control Measures considered *Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
No reasonably practical alternative control measures identified					

6.6.3.2 Additional Control Measures

Additional Control Measures considered *Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
Additional trained personnel available	The level of training and competency of the response personnel ensures the shoreline clean-up operation is delivered with minimum secondary impact to the environment. Training additional personnel does not provide an increased environmental benefit.	Additional personnel required to sustain an extended response can be sourced through the Woodside *People & Global Capability Surge Labour Requirement Plan*. Additional personnel sourced from contracted OSROs (OSRL/AMOSC) to manage other responders Response personnel are trained and exercised regularly in shoreline response techniques and methods. All personnel involved in a response will receive a full operational/safety brief prior to commencing operations.	Additional Specialist Personnel would cost A$2,000 per person per day.	This option is not adopted as the existing capability meets the need.	**No**
Additional trained personnel deployed	Maintaining a span of control of 200 competent personnel is deemed manageable and appropriate for this activity. Additional personnel conducting clean-up activities may be able to complete the clean-up in a shorter timeframe, but modelling predicts ongoing stranding of hydrocarbons over a period of weeks. Managing a smaller, targeted response is expected to achieve an environmental benefit through ensuring the shoreline clean-up response is suitable and scalable for the shoreline substrate and sensitivity type. This will ensure there is no increased impact from the shoreline clean-up through the presence of unnecessary personnel and equipment.	The figure of 200 personnel is broken down to include on 1-2 x Trained Supervisors managing 8-10 personnel/labour hire responders. This allows for multiple operational teams to operate along the extended shoreline at different locations. Typically, an additional 30-50% of the tactical workforce is required to support ongoing operations including On-Scene control, logistics, safety/medical/welfare and transport. Personnel on site will include members with the appropriate specialties to ensure an efficient shoreline clean-up. Additional personnel are available through existing contracts with oil spill response organisations, labour hire organisations and environmental panel contractors	Additional Specialist Personnel would cost A$2,000 per person per day.	This option is not adopted as the existing capability meets the need.	**No**

6.6.3.3 Improved Control Measures

Improved Control Measures considered *Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
Faster response/ mobilisation time	Given modelling does not predict floating or shoreline impacts at threshold until day 7 (MEE-05) or day 19 (MEE-01), Woodside considers that there	Response teams, trained personnel, contracted oil spill response service providers, government agencies and the associated mitigation equipment required to enact an initial protection and deflection	The cost of establishing a local stockpile of new shoreline clean-up equipment closer to the expected hydrocarbon stranding areas is not commensurate with the need.	This option is not adopted as the existing capability meets the need.	**No**

	is sufficient time for deployment of clean-up operations prior to impact.	response will be available for mobilisation within 24-48 hrs of activation. Additional equipment from existing stockpiles and oil spill response service providers can be on scene within days. Hydrocarbons are not predicted to accumulate at threshold until day 7 (MEE-05) or day 19 (MEE-01) therefore allowing enough time to re-locate existing equipment, personnel and other resources to the most appropriate areas.			

6.6.4 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- Alternative
  - None selected
- Additional
  - None selected
- Improved
  - None selected

6.7 Oiled Wildlife Response – ALARP Assessment

Alternative, Additional and Improved options have been identified and assessed against the base capability described in Section 5.7 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.7.1 Existing Capability – Wildlife Response

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.7.2 Oiled Wildlife Response - Control Measure Options Analysis

6.7.2.1 Alternative Control Measures

Alternative Control Measures considered
Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Direct contracts with service providers	This option duplicates the capability accessed through AMOSC and OSRL and would compete for the same resources. Does not provide a significant increase in environmental benefit.	These delivery options provide increased effectiveness through more direct communication and control of specialists. However, no significant net benefit is anticipated.	Duplication of capability – already subscribed to through contracts with AMOSC and OSRL	This option is not adopted as the existing capability meets the need.	**No**

6.7.2.2 Additional Control Measures

Additional Control Measures considered
Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Additional wildlife treatment systems	The selected delivery options provide access to call-off contracts with selected specialist providers. The agreements ensure that these resources can be mobilised to meet the required response objectives, commensurate with the progressive nature of environmental impact and the time available to monitor hydrocarbon plume trajectories. Provides response equipment and personnel by Day 3. The additional cost in having a dedicated oiled wildlife response (equipment and personnel) in place is disproportionate to environmental benefit. These selected delivery options provide capacity to carry out an oiled wildlife response if contact is predicted; and to scale up the response if required to treat widespread contamination. Current capability meets the needs required and there is no additional environmental benefit in adopting the improvements.	Although hydrocarbon contact above wildlife response threshold concentrations (>10 g/m^2) with offshore waters is expected from day one (MEE-01), given the low likelihood of such an event occurring and that the current capability meets the need, the cost of implementing measures to reduce the mobilisation time is considered disproportionate to the benefit. Additionally, the remote offshore location of the release site, with an earliest impact on day 12, provides sufficient opportunity for the ongoing monitoring and surveillance operations to inform the scale of the response. Numbers of oiled wildlife are expected to be low in the remote offshore setting of the oiled wildlife response, given the distance from known aggregation areas. Oiled wildlife response capacity would be addressed for open Commonwealth waters through the AMOSC arrangements, as informed by monitor and evaluate operations. The cost and organisational complexity of this approach is moderate, and the overall delivery effectiveness is high.	Additional wildlife response resources could total A$1,700 per operational site per day.	This option is not adopted as the existing capability meets the need.	**No**
Additional trained wildlife responders	Numbers of oiled wildlife are expected to be low in the remote offshore setting of the oiled wildlife response, given the distance from known aggregation areas.	Current numbers meet the needs required and additional personnel are available through existing contracts with oil spill response organisations and environmental panel contractors. Additional equipment and facilities would be required to support ongoing response, depending	Additional wildlife response personnel cost A$2,000 per person per day	This option is not adopted as the existing capability meets the need.	**No**

	The potential environmental benefit of training additional personnel is expected to be low.	on the scale of the event and the impact to wildlife and maybe sourced via existing contracts with OSROs. Materials for holding facilities, portable pools, enclosures and rehabilitation areas would be sourced as required.			

6.7.2.3 Improved Control Measures

Improved Control Measures considered *Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility*					
Option considered	**Environmental consideration**	**Feasibility**	**Approximate Cost**	**Assessment conclusions**	**Implemented**
Faster mobilisation time for wildlife response	Response time is limited by specialist personnel mobilisation time. Current timing is sufficient for expected first shoreline contact. This control measure provides increased effectiveness through faster mobilisation of specialists. However, no significant net environmental benefit is expected due to shoreline stranding times.	Pre-positioning vessels or equipment would reduce mobilisation time for oiled wildlife response activities. However, given the effectiveness of an oiled wildlife response is expected to be low, an earlier response would provide a marginal increase in environmental benefit.	Wildlife response packages to preposition at vulnerable sites identified through the deterministic modelling cost A$700 per package per day. The cost of having dedicated equipment and personnel available to respond faster is considered disproportionate to the environmental benefit.	This option is not adopted as the existing capability meets the need.	**No**

6.7.3 Selected control measures

Following review of alternative, additional and improved control measures, the following controls were selected for implementation for the PAP.

- Alternative
  - None selected
- Additional
  - None selected
- Improved
  - None selected

6.8 Waste Management – ALARP Assessment

Alternative, Additional and Improved options have been identified and assessed against the base capability described in Section 5.8 with those that have been selected for implementation highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.8.1 Existing Capability – Waste Management

Woodside's exiting level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/vessel/aircraft/vehicle location and duties, survey or classification society inspection requirements, overflight/port/quarantine permits and inspections, crew/pilot duty and fatigue hours, refuelling/re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.8.2 Waste Management - Control Measure Options Analysis

6.8.2.1 Alternative Control Measures

Alternative Control Measures considered
Alternative, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
No reasonably practical alternative control measures identified					

6.8.2.2 Additional Control Measures

Additional Control Measures considered
Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Increased waste storage capability	The procurement of waste storage equipment options on the day of the event will allow immediate response and storage of collected waste. The environmental benefit of immediate waste storage is to reduce ecological consequence by safely securing waste, allowing continuous response operations to occur.	Access to Veolia's storage options provides the resources required to store and transport sufficient waste to meet the need. Access to waste contractors existing facilities enables waste to be stockpiled and gradually processed within the regional waste handling facilities. Additional temporary storage equipment is available through existing contract and arrangements with OSRL. Existing arrangements meet identified need for the PAP.	Cost for increased waste disposal capability would be approx. A$1,300 per m^3. Cost for increased onshore temporary waste storage capability would be approx. A$40 per unit per day.	This option is not adopted as the existing capability meets the need.	**No**

6.8.2.3 Improved Control Measures

Improved Control Measures considered
Improved control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures in terms of functionality, availability, reliability, survivability, independence and compatibility

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Faster response time	The access to Veolia waste storage options provides the resources to store and transport waste, permitting the wastes to be stockpiled and gradually processed within the regional waste handling facilities. Bulk transport to Veolia's licensed waste management facilities would be undertaken via controlled-waste-licensed vehicles and in accordance with Environmental Protection (Controlled Waste) Regulations 2004. The environmental benefit from successful waste storage will reduce pressure on the treatment and disposal facilities reducing ecological consequences by safely securing waste. In addition, waste storage	Woodside already maintains an equipment stockpile in Exmouth to enable shorter response times to incidents. This stockpile includes temporary waste storage equipment. Woodside has access to stockpiles of waste storage and equipment in Dampier and Exmouth through existing contracts and arrangements.	The incremental benefit of having a dedicated local Woodside owned stockpile of waste equipment and transport is considered minor and cost is considered disproportionate to the benefit gained given predicted shoreline contact times.	This option is not adopted as the existing capability meets the need.	**No**

	and transport will allow continuous response operations to occur. This delivery option would increase known available storage, eliminating the risk of additional resources not being available at the time of the event. However, the environmental benefit of Woodside procuring additional waste storage is considered minor as the risk of additional storage not being available at the time of the event is considered low and existing arrangements provide adequate storage to support the response.				

6.8.3 Selected control measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP.

- Alternative
  - None selected
- Additional
  - None selected
- Improved
  - None selected

6.9 Operational and Scientific Monitoring – ALARP Assessment

Alternative, additional and improved options have been identified and assessed against the base capability described in Section 5.9 with those that have been selected for implementation which are highlighted in green. Items highlighted in red have been considered and rejected on the basis that they are not feasible, the costs are clearly disproportionate to the environmental benefit, and/or the option is not reasonably practical. Control measures where there is not a clear justification for their inclusion or exclusion may be subject to a detailed ALARP assessment.

6.9.1 Existing Capability – Operational and Scientific Monitoring

Woodside's existing level of capability is based on internal and third-party resources that are available 24 hours, 7 days per week. The capability presented below is displayed as ranges to incorporate operational factors such as weather, crew/ vessel/ aircraft/ vehicle location and duties, survey or classification society inspection requirements, overflight/ port/ quarantine permits and inspections, crew/ pilot duty and fatigue hours, refuelling/ re-stocking provisions, and other similar logistic and operational limitation that are beyond Woodside's direct control.

6.9.2 Operational and Scientific Monitoring – Control Measure Options Analysis

6.9.2.1 Alternative Control Measures

Alternative Control Measures considered
Alternative control measures, including potentially more effective and/or novel control measures, are evaluated as replacements for an adopted control

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Dedicated contracted OSM vessel (exclusive to Woodside)	Would provide marginally faster mobilisation time of first-strike monitoring resources. However, the timescale difference would be limited when compared to the availability of in-field support vessels which are equipped with first strike water quality sampling equipment, meaning it would result in very minor to no environmental benefit.	Chartering and equipping additional vessels on standby for operational and scientific monitoring has been considered. The option is reasonably practicable but the sacrifice (charter costs and organisational complexity) is significant, particularly when existing contracted support vessels can be equipped with first strike water quality sampling equipment. Additionally, vessels are not the limiting factor in deployment times, as the majority of operational and scientific monitoring components require trained specialists, who can take > 72 hours to mobilise.	The cost and organisational complexity of contracting a dedicated response vessel is considered disproportionate to the marginal environmental benefit by adopting these delivery options.	This control measure is not adopted as the costs and complexity are considered disproportionate to any environmental benefit that might be realised.	**No**

6.9.2.2 Additional control measures

Additional Control Measures considered
Additional control measures are evaluated in terms of them reducing an environmental impact or an environmental risk when added to the existing suite of control measures

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Pre-position a team of trained scientific monitoring personnel on standby in Dampier	Pre-positioning a team of trained scientific monitoring personnel closer to the spill location would result in quicker mobilisation times for one or two priority OMPs or SMPs to be implemented.	A trained team of scientific monitoring personnel positioned in Dampier could result in a more rapid deployment of first strike monitoring. However, this option is reliant on suitable vessels being readily available in Dampier and not requiring relocation from nearby ports or adjacent offshore locations.	The costs of having a small team of trained scientific monitoring personnel available on standby in Dampier would be in excess of $3-4M / annum and would be an associated cost to the activity whether there was a spill or not.	The cost of maintaining a team of trained scientific monitoring personnel on standby in Dampier is considered disproportionate, as multiple teams of trained personnel are required to implement multiple OMPs and SMPs. It is considered more cost effective and feasible to pre-position first strike sampling kits on support vessels (see below).	**No**
Purchase first strike water quality / hydrocarbon sampling kits for pre-positioning on nearby support vessels and develop technical procedure for sample collection	The availability of first strike water quality / hydrocarbon sampling kits on nearby support vessels (and an accompanying technical procedure for sample collection) will provide an opportunity for more rapid initial measurements of hydrocarbon properties and concentrations. This information will provide important initial situational awareness information that will aid decision making in both monitoring and response efforts.	This control measure will improve the availability and timeframe for first strike water quality sampling.	Implementing this additional control measure will involve time and effort to source and supply first strike sampling kits to the selected supply vessels. There will also be employee time involved in developing and conducting training to vessel crews on the technical procedure for sample collection.	Adoption of this control measure will provide an additional and quicker opportunity for first strike water quality sampling, resulting in improved situational awareness for decision making in monitoring and response teams.	**Yes**
Modify Woodside Aerial Surveillance Observer Log to enable observers to record marine fauna sightings (presence and type of fauna)	Initial aerial surveillance provides important information for decision making in response operations, but can also provide important initial environmental monitoring data. Amending the Woodside Aerial Surveillance Observer Log to include the ability to report on location, presence and type of fauna could assist in a more rapid, effective	This control measure is considered reasonably practicable to implement.	Cost to modify the Aerial Surveillance Observer Log is minimal and is associated with time and effort of existing employees.	Adoption of this control measure is considered to be beneficial as it could assist in more effective and efficient deployment of fauna monitoring and response efforts.	**Yes**

	deployment of specialised OMP teams for Marine Fauna Assessment and Oiled Wildlife Response.				
Conduct periodical review of existing baseline data sources across receptors predicted to be contacted within 7 days at the low thresholds and a probability ≥10%	This ensures that receptors with deficient baseline data are identified. This a consideration for first-strike monitoring prioritisation and the finalisation of each SMP design	This control measure is considered reasonably practicable to implement.	Cost of contract with Service Provider.	Understanding the presence or absence, suitability and quality of baseline data for receptors predicted to be contacted within 7 days, at a probability ≥ 10%, is an important preparatory measure. Understanding which receptors have insufficient baseline data will help quickly guide monitoring prioritisation and the finalisation of each SMP design and whether there is a need to include alternative designs.	**Yes**

6.9.2.3 Improved Control Measures considered

Improved Control Measures considered
Improved, including potentially more effective and/or novel control measures are evaluated as replacements for an adopted control

Option considered	Environmental consideration	Feasibility	Approximate Cost	Assessment conclusions	Implemented
Adoption of the OSRL OSM Supplementary Service Agreement for OSM capability provision	A Joint Industry capability provision has considerable benefits, including an improvement to industry OSM standards; improved reliability in accessing specialist personnel; efficiencies and capability growth associated with shared testing and exercising; and greater depth in Monitoring Service Provider (MSP) capability, with a centralised contract coordinating multiple consultancies and MSPs.	This control measure has already been developed by Industry and is considered reasonably practicable to implement.	Cost of annual subscription to OSRL OSM Supplementary Service Agreement	Adopting this control measure involves additional costs, but the benefits of a Joint Industry OSM capability provision outweighs the costs and therefore this additional measure has been accepted.	**Yes**
Determine the required specifications for suitable monitoring vessels, including specialised equipment for OMPs and SMPs (i.e. hiab) and the requirement of shallow draft vessels to access offshore islands and priority monitoring areas	Understanding vessel specification requirements for OSM at priority locations will result in quicker mobilisation times, and more effective monitoring, as correctly equipped vessels will be made available at the commencement the monitoring effort.	This control measure is considered reasonably practicable to implement.	Cost to determine vessel specifications is minimal and is associated with time and effort of existing employees.	This control measure would result in the correct vessels being mobilised for monitoring personnel and result in quicker implementation of monitoring.	**Yes**

6.9.3 Selected Control Measures

Following review of alternative, additional and improved control measures as outlined above, the following controls were selected for implementation for the PAP:

- alternative
  - none selected
- additional
  - purchase first strike water quality / hydrocarbon sampling kits for pre-positioning on nearby support vessels and develop technical procedure for sample collection
  - modify Woodside Aerial Surveillance Observer Log to enable observers to record marine fauna sightings (presence and type of fauna)
  - conduct periodical review of existing baseline data sources for receptors predicted to be contacted within 7 days, at the low thresholds and a probability ≥ 10%.
- improved

6.9.4 ALARP and Acceptability Summary

ALARP and Acceptability Summary		
Operational and Scientific Monitoring		
ALARP Summary	X	Known, reasonably practicable control measures have been adopted
	X	No additional, alternative and improved control measures would provide further benefit
	X	No reasonably practical additional, alternative, and/or improved control measure exists
	The resulting operational and scientific monitoring capability has been assessed against the credible spill scenarios. The range of techniques provide an ongoing approach to monitoring operations to assess and evaluate the scale and extent of impacts. Known, reasonably practicable control measures have been adopted with the cost and organisational complexity of these options determined to be Moderate and the overall delivery effectiveness considered Medium. The operational and scientific monitoring's main objectives can be met, with the addition of one alternative control measures to provide further benefit.	
Acceptability Summary	• The control measures selected for implementation manage the potential impacts and risks to ALARP. • In the event of a hydrocarbon spill for the PAP, the control measures selected, meet or exceed the requirements of Woodside Management System and industry best-practice. • Operational and scientific monitoring control and activities are compliant with relevant environmental legislation and regulations, including the EPBC Act. • Throughout the PAP, relevant Australian standards and codes of practice will be followed to evaluate the impacts from a loss of well control. • Stakeholder consultation undertaken for the PAP did not receive feedback regarding concerns for Scientific Monitoring activities in response to a hydrocarbon spill. • The level of impact and risk to the environment has been considered with regards to the principles of ESD; and risks and impacts from a range of identified scenarios were assessed in detail. The control measures described consider the conservation of biological and ecological diversity, through both the selection of control measures and the management of their performance. The control measures have been developed to account for credible case scenarios, and uncertainty has not been used as a reason for postponing control measures.	
On the basis from the ALARP and acceptability summary as presented above and in Section 6 of the EP Woodside considers the adopted controls discussed manage the impacts and risks associated with implementing operational and scientific monitoring activities to a level that is ALARP and acceptable.		

7 ENVIRONMENTAL RISK ASSESSMENT OF SELECTED RESPONSE TECHNIQUES

The implementation of response techniques may modify the impacts and risks identified in the EP and response activities can introduce additional impacts and risks from response operations themselves. Therefore, it is necessary to complete an assessment to ensure these impacts and risks have been considered and specific measures are put in place to continually review and manage these further impacts and risks to ALARP and Acceptable levels. A simplified assessment process has been used to complete this task which covers the identification, analysis, evaluation and treatment of impacts and risks introduced by responding to the event.

7.1 Identification of impacts and risks from implementing response techniques

Each of the control measures can modify the impacts and risks identified in the EP. These impacts and risks have been previously assessed within the scope of the EP. Refer to the EP for details regarding how these risks are being managed. They are not discussed further in this document.

- Atmospheric emissions
- Routine and non-routine discharges
- Physical presence, proximity to other vessels (shipping and fisheries)
- Routine acoustic emissions vessels
- Lighting for night work/navigational safety
- Invasive marine species
- Collision with marine fauna
- Disturbance to Seabed

Additional impacts and risks associated with the control measures not included within the scope of the EP include:

- Drill cuttings and drilling fluids environmental impact assessment for relief well drilling
- Vessel operations and anchoring
- Presence of personnel on the shoreline
- Increase in entrained hydrocarbons
- Toxicity of dispersant
- Human presence (manual cleaning)
- Vegetation cutting
- Additional stress or injury caused to wildlife
- Secondary contamination from the management of waste

7.2 Analysis of impacts and risks from implementing response techniques

The table below compares the adopted control measures for this activity against the environmental values that can be affected when they are implemented.

Table 7-1: Analysis of risks and impacts

	Environmental Value						
	Soil and Groundwater	Marine Sediment Quality	Water Quality	Air Quality	Ecosystems/ Habitat	Species	Socio-Economic
Monitor and evaluate		✓	✓		✓	✓	
Source control		✓	✓	✓	✓	✓	✓
Surface dispersant application			✓		✓	✓	✓
Containment and recovery			✓		✓	✓	✓
Shoreline protection and deflection	✓	✓	✓		✓	✓	✓
Shoreline clean-up	✓	✓	✓		✓	✓	✓
Oiled wildlife					✓	✓	
Operational and scientific monitoring	✓	✓	✓	✓	✓	✓	✓
Waste management	✓			✓	✓	✓	✓

7.3 Evaluation of impacts and risks from implementing response techniques

Drill cuttings and drilling fluids environmental impact assessment for relief well drilling

The identified potential impacts associated with the discharge of drill cuttings and fluids during a relief well drilling activity include a localised reduction in water and seabed sediment quality, and potential localised changes to benthic biota (habitats and communities).

A number of direct and indirect ecological impact pathways are identified for drill cuttings and drilling fluids as follows:

- Temporary increase in total suspended solids (TSS) in the water column;
- Attenuation of light penetration as an indirect consequence of the elevation of TSS and the rate of sedimentation;
- Sediment deposition to the seabed leading to the alteration of the physio-chemical composition of sediments, and burial and potential smothering effects to sessile benthic biota; and
- Potential contamination and toxicity effects to benthic and in-water biota from drilling fluids.

Potential impacts from the discharge of cuttings range from the complete burial of benthic biota in the immediate vicinity of the well site due to sediment deposition, smothering effects from raised sedimentation concentrations as a result of elevated Total Suspended Solids (TSS), changes to the physico-chemical properties of the seabed sediments (particle size distribution and potential for reduction in oxygen levels within the surface sediments due to organic matter degradation by aerobic bacteria) and subsequent changes to the composition of infauna communities to minor sediment loading above background and no associated ecological effects. Predicted impacts are generally confined to within a few hundred metres of the discharge point (International Association of Oil and Gas Producers 2016) (i.e. within the EMBA for a hydrocarbon spill event).

The discharge of drill cuttings and unrecoverable fluids from relief well drilling is expected to increase turbidity and TSS levels in the water column, leading to an increased sedimentation rate above ambient levels associated with the settlement of suspended sediment particles near to the seabed or below sea surface, depending on location of discharge. Cuttings with retained (unrecoverable) drilling fluids are discharged below the water line at the MODU location, resulting in drill cuttings and drilling fluids rapidly diluting, as they disperse and settle through the water column. The dispersion and fate of the cuttings is determined by particle size and density of the retained (unrecoverable) drilling fluids, therefore, the sediment particles will primarily settle in proximity to the well locations with potential for localised spread downstream (depending on the

speed of currents throughout the water column and seabed) (IOGP 2016). The finer particles will remain in suspension and will be transported further before settling on the seabed.

These conclusions were supported by discharge modelling which was undertaken by Woodside in support of the Greater Enfield Development EP Modelling results indicating that the TSS plume of suspended cuttings will typically disperse to the south-west while oscillating with the tide and diminish rapidly with increasing distance from the well locations. Maximum TSS concentrations predicted for 100 m; 250 m and 1 km distances from the wellsite were 7, 5 and 1 mg/L, respectively. Furthermore, water column concentrations below 10 mg/L remain within 235 m of the discharge location for each modelled well. For all well discharge locations (outside of direct discharge sites), TSS concentration did not exceed 10 mg/l. Nelson et al. (2016) identified <10 mg/L as a no effect or sub-lethal minimal effect concentration.

The low sensitivity of the deep-water benthic communities/habitats within and in the vicinity of relief well locations, combined with the relatively low toxicity of water based muds (WBM and non-water based muds (NWBMs, no bulk discharges of NWBM and the highly localised nature and scale of predicted physical impacts to seabed biota indicate that any localised impact would likely be of a slight magnitude (especially when considering the broader consequence of the loss of well containment (LOC) event a relief well drilling activity would be responding too).

Vessel operations and anchoring

Typical booms used in containment and recovery operations are designed to float, meaning that fauna capable of diving, such as cetaceans, marine turtles and sea snakes can readily avoid contact with the boom. Impacts to species that inhabit the water column such as sharks, rays and fish are not expected. Additionally, some fauna, such as cetaceans, are likely to detect and avoid the spill area, and are not expected to be present in the proximity of containment and recovery operations.

During the implementation of response techniques, where water depths allow, it is possible that response vessels will be required to anchor (e.g. during shoreline surveys). The use of vessel anchoring will be minimal and likely to occur when the impacted shoreline is inaccessible via road. Anchoring in the nearshore environment of sensitive receptor locations will have the potential to impact coral reef, seagrass beds and other benthic communities in these areas. Recovery of benthic communities from anchor damage depends on the size of anchor and frequency of anchoring. Impacts would be highly localised (restricted to the footprint of the vessel anchor and chain) and temporary, with full recovery expected.

Distribution of entrained hydrocarbons

Surface dispersant application in intended to treat floating hydrocarbons, thereby reducing the risk of air breathing marine fauna (e.g. cetaceans, dugongs, marine turtles, seabirds and shorebirds) from becoming oiled. It also has the potential to reduce/eliminate contamination of sensitive intertidal habitats such as mangroves, coral reefs, salt marshes and sandy shores (recreational and tourist areas) through the reduction in shoreline loadings.

Chemical dispersants act to break up hydrocarbons by reducing surface tension between the oil and the surrounding water. Dispersants, whether applied on the surface or subsea, result in the breakup of hydrocarbons into micron-sized droplets, which are easier to disperse throughout the water column. These small, dispersed hydrocarbons droplets are degraded by bacteria due to the increased surface area presented by the small droplets. The application of dispersants can enhance biodegradation and dissolution, reducing the volume of hydrocarbons that have the potential to impact shorelines.

Surface application of dispersants results in the micron-sized droplets being mixed into the upper layer of the water column, usually the first 10 to 20 m, through wave and wind energy. These elevated concentrations of dispersed hydrocarbons within the upper layer of the water column are rapidly diluted through vertical and horizontal mixing. The application of surface dispersants may result in a greater risk that water column and subtidal habitats could be exposed to elevated concentrations of dispersed hydrocarbons.

Toxicity of dispersants

The evaluation of the potential impacts to the receiving environment needs to consider not only the redistribution of hydrocarbons into the water column, but also the potential toxic nature of the dispersant applied and the toxicity effects of dispersed hydrocarbons.

The potential toxicity to the marine environment can be from the chemical/dispersant itself but also chemical dispersion of hydrocarbon can increase the concentration of toxic hydrocarbon compounds in the water column (Anderson et al 2014). Subtidal habitats and communities such as coral reefs, seagrass meadows, plankton, fish, known spawning grounds and periods of increased reproductive outputs (early life stages of

fish and invertebrates i.e. meroplankton) are susceptible to toxic effects of chemically dispersed hydrocarbons.

Presence of personnel on the shoreline

Presence of personnel on the shoreline during shoreline operations could potentially result in disturbance to wildlife and habitats. During the implementation of response techniques, it is possible that personnel may have minimal, localised impacts on habitats, wildlife and coastlines. The impacts associated with human presence on shorelines during shoreline surveys may include:

- Damage to vegetation/habitat to gain access to areas of shoreline oiling;
- Damage or disturbance to wildlife during shoreline surveys;
- Removal of surface layers of intertidal sediments (potential habitat depletion); and
- Excessive removal of substrate causing erosion and instability of localised areas of the shoreline.

Human presence

Human presence for manual clean-up operations may lead to the compaction of sediments and damage to the existing environment especially in sensitive locations such as mangroves and turtle nesting beaches. However, any impacts are expected to be localised with full recovery expected.

Waste generation

Implementing the selected response techniques will result in the generation of the following waste streams that will require management and disposal:

- Liquids (recovered oil/water mixture), recovered from containment and recovery and shoreline clean-up operations
- Semi-solids/solids (oily solids), collected during containment and recovery and shoreline clean-up operations
- Debris (e.g. seaweed, sand, woods, plastics), collected during containment and recovery and shoreline clean-up operations and oiled wildlife response.

If not managed and disposed of correctly, wastes generated during the response have the potential for secondary contamination similar to that described above, impacts to wildlife through contact with or ingestion of waste materials and contamination risks if not disposed of correctly onshore.

Cutting back vegetation could allow additional oil to penetrate the substrate and may also lead to localised habitat loss. However, any loss is expected to be localised in nature and lead to an overall net environmental benefit associated with the response by reducing exposure of wildlife to oiling.

Additional stress or injury caused to wildlife

Additional stress or injury to wildlife could be caused through the following phases of a response:

- Capturing wildlife
- Transporting wildlife
- Stabilisation of wildlife
- Cleaning and rinsing of oiled wildlife
- Rehabilitation (e.g. diet, cage size, housing density)
- Release of treated wildlife

Inefficient capture techniques have the potential to cause undue stress, exhaustion or injury to wildlife, additionally pre-emptive capture could cause undue stress and impacts to wildlife when there are uncertainties in the forecast trajectory of the spill. During the transportation and stabilisation phases there is the potential for additional thermoregulation stress on captured wildlife. Additionally, during the cleaning process, it is important personnel undertaking the tasks are familiar with the relevant techniques to ensure that further injury and the removal of water proofing feathers are managed and mitigated. Finally, during the release phase it's important that wildlife is not released back into a contaminated environment.

7.4 Treatment of impacts and risks from implementing response techniques

In respect of the impacts and risks assessed the following treatment measures have been adopted. It must be recognised that this environmental assessment is seeking to identify how to maintain the level of impact and risks at levels that are ALARP and of an acceptable level rather than exploring further impact and risk

reduction. It is for this reason that the treatment measures identified in this assessment will be captured in Operational Plans, Tactical Response Plans, and/or First Strike Plans.

Vessel operations and access in the nearshore environment

- The boom will be monitored and maintained to ensure trapped fauna are released as early as possible, with Containment and Recovery activities occurring in daylight hours only. (Performance Standard (PS 17.1)
- If vessels are required for access, anchoring locations will be selected to minimise disturbance to benthic primary producer habitats. Where existing fixed anchoring points are not available, locations will be selected to minimise impact to nearshore benthic environments with a preference for areas of sandy seabed where they can be identified (PS 17.2, PS 20.1, PS 23.1, PS 35.4)
- Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines (PS 17.3, PS 20.2, PS 23.2, PS 35.5)

Distribution of entrained hydrocarbons

- Surface dispersants will only be applied in the Zone of Application and on BAOAC 4 and 5 oil (PS13.1)
- Surface dispersant efficacy monitoring will be conducted in accordance with the Woodside OSM-BIP and OM4: Dispersant Effectiveness and Fate Assessment (APPEA, 2021) (PS 13.3)

Toxicity of dispersants

- OSCA approved dispersants prioritised for surface and subsea use (PS 13.2)

Presence of personnel on the shoreline

- Oversight by trained personnel who are aware of the risks (PS 23.6)
- Trained unit leader's brief personnel of the risks prior to operations (PS 23.7)

Human Presence

- Shoreline access routes (foot, car, vessel and helicopter) with the least environmental impact identified will be selected by a specialist in SCAT operations (PS 23.5, PS 35.3)
- Vehicular access will be restricted on dunes, turtle nesting beaches and in mangroves. (PS 23.3, PS 35.6)

Waste generation

- All shoreline clean-up sites will be zoned and marked before clean-up operations commence to prevent secondary contamination and minimise the mixing of clean and oiled sediment and shoreline substrates (PS 21.4)
- Removal of vegetation will be limited to moderately or heavily oiled vegetation (PS 23.4).

Additional stress or injury caused to wildlife

- Oiled wildlife operations (including hazing) would be implemented with advice and assistance from the Oiled Wildlife Advisor from the DBCA, and in accordance with the processes and methodologies described in the WA OWRP and the relevant regional plan (PS 27.1)

8 ALARP CONCLUSION

An analysis of alternative, additional and improved control measures has been undertaken to determine their reasonableness and practicability. The tables in Section 6 document the considerations made in this evaluation. Where the costs of an alternative, additional, or improved control measure have been determined to be clearly disproportionate to the environmental benefit gained from its adoption it has been rejected. Where this is not considered to be the case the control measure has been adopted.

The risks from a hydrocarbon spill have been reduced to ALARP because:

- Woodside has a significant hydrocarbon spill response capability to respond to the WCCS through the control measures identified.
- New and modified impacts and risks associated with implementing response techniques have been considered and will not increase the risks associated with the activity.
- A consideration of alternative, additional, and improved control measures identified any other control measures that delivered proportionate environmental benefit compared to the cost of adoption for this activity ensuring that:
    - Known, reasonably practicable control measures have been adopted.
    - No additional, reasonably practicable alternative and/or improved control measures would provide further environmental benefit.
    - No reasonably practical additional, alternative, and/or improved control measure exists.
- A structured process for considering alternative, additional, and improved control measures was completed for each control measure .
- The evaluation was undertaken based on the outputs of the WCCS so that the capability in place is sufficient for all other scenario from this activity.
- The likelihood of the WCCS spill has been ignored in evaluating what was reasonably practicable.

9 ACCEPTABILITY CONCLUSION

Following the ALARP evaluation process, Woodside deems the hydrocarbon spill risks and impacts have been reduced to an acceptable level by meeting all of the following criteria:

- Techniques are consistent with Woodside's processes and relevant internal requirements including policies, culture, processes, standards, structures and systems.
- Levels of risk/ impact are deemed acceptable by relevant persons/ organisations are aligned with the uniqueness of, and/or the level of protection assigned to the environment, its sensitivity to pressures introduced by the activity, and the proximity of activities to sensitive receptors, and have been aligned with Part 3 of the EPBC Act.
- Selected control measures meet requirements of legislation and conventions to which Australia is a signatory (e.g. MARPOL, the World Heritage Convention, the Ramsar Convention, and the Biodiversity Convention etc.). In addition to these, other non-legislative requirements met include:
    - Australian IUCN reserve management principles for Commonwealth marine protected areas and bioregional marine plans.
    - National Water Quality Management Strategy and supporting guidelines for marine water quality.
    - Conditions of approval set under other legislation.
    - National and international requirements for managing pollution from ships.
    - National biosecurity requirements.
- Industry standards, best practices and widely adopted standards and other published materials have been used and referenced when defining acceptable levels. Where these are inconsistent with mandatory/ legislative regulations, explanation has been provided for the proposed deviation. Any deviation produces the same or a better level of environmental performance (or outcome).

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11 GLOSSARY AND ABBREVIATIONS

11.1 Glossary

Term	Description / Definition
ALARP	Demonstration through reasoned and supported arguments that there are no other practicable options that could reasonably be adopted to reduce risks further.
Availability	The availability of a control measure is the percentage of time that it is capable of performing its function (operating time plus standby time) divided by the total period (whether in service or not). In other words, it is the probability that the control has not failed or is undergoing a maintenance or repair function when it needs to be used.
Control	The means by which risk from events is eliminated or minimised.
Control effectiveness	A measure of how well the control measures perform their required function.
Control measure (risk control measure)	The features that eliminate, prevent, reduce or mitigate the risk to environment associated with PAP.
Credible spill scenario	A spill considered by Woodside as representative of maximum volume and characteristics of a spill that could occur as part of the PAP.
Dependency	The degree of reliance on other systems in order for the control measure to be able to perform its intended function.
Environment that may be affected	The summary of quantitative modelling where the marine environment could be exposed to hydrocarbons levels exceeding hydrocarbon threshold concentrations.
Incident	An event where a release of energy resulted in or had (with) the potential to cause injury, ill health, damage to the environment, damage to equipment or assets or company reputation.
Major Environment Event	The events with potential environment, reputation, social or cultural consequences of category C or higher (as per Woodside's operational risk matrix) which are evaluated against credible worst-case scenarios which may occur when all controls are absent or have failed.
Performance outcome	A statement of the overall goal or outcome to be achieved by a control measure
Performance standard	The parameters against which [risk] controls are assessed to ensure they reduce risk to ALARP. A statement of the key requirements (indicators) that the control measure has to achieve in order to perform as intended in relation to its functionality, availability, reliability, survivability and dependencies.
Preparedness	Measures taken before an incident in order to improve the effectiveness of a response
Reasonably practicable	... a computation ... made by the owner, in which the quantum of risk is placed on one scale and the sacrifice involved in the measures necessary for averting the risk (whether in money, time or trouble) [showing whether or not] that there is a gross disproportion between them ... made by the owner at a point of time anterior to the accident. (Judgement: Edwards v National Coal Board [1949])
Receptors at risk	Physical, biological and social resources identified as at risk from hydrocarbon contact using oil spill modelling predictions.
Receptor areas	Geographically referenced areas such as bays, islands, coastlines and/or protected area (WHA, Commonwealth or State marine reserve or park) containing one or more receptor type.
Receptor Sensitivities	This is a classification scheme to categorise receptor sensitivity to an oil spill. The Environmental Sensitivity Index (ESI) is a numerical classification of the relative sensitivity of a particular environment (particularly different shoreline types) to an oil spill. Refer to the Woodside Oil Pollution Emergency Arrangements (Australia) for more details.
Regulator	NOPSEMA are the Environment Regulator under the Environment Regulations.

Term	Description / Definition
Reliability	The probability that at any point in time a control measure will operate correctly for a further specified length of time.
Response technique	The key priorities and objectives to be achieved by the response plan Measures taken in response to an event to reduce or prevent adverse consequences.
Survivability	Whether or not a control measure is able to survive a potentially damaging event is relevant for all control measures that are required to function after an incident has occurred.
Threshold	Hydrocarbon threshold concentrations applied to the risk assessment to evaluate hydrocarbon spills. These are defined as: surface hydrocarbon concentration – ≥10 g/m^2, dissolved – ≥50 ppb and entrained hydrocarbon concentrations – ≥100 ppb.
Zone of Application	The zone in which Woodside may elect to apply dispersant. The zone is determined based on a range of considerations, such as hydrocarbon characteristics, weathering and metocean conditions. The zone is a key consideration in the Net Environmental Benefit Analysis for dispersant use.

11.2 Abbreviations

Abbreviation	Meaning
ADIOS	Automated Data Inquiry for Oil Spills
AIIMS	Australasian Inter-Service Incident Management System
ALARP	As low as reasonably practicable
AMOSC	Australian Marine Oil Spill Centre
AMP	Australian Marine Park
AMSA	Australian Maritime Safety Authority
AUV	Autonomous Underwater Vehicle
BACI	Before/ After Control Impact
BAOAC	Bonn Agreement Oil Appearance Code
BOP	Blowout Preventer
cST	Centistokes
CIMT	Corporate Incident Management Team
COP	Common Operating Picture
cST	Centistokes
DTMI	Western Australia Department of Transport and Major Infrastructure
DBCA	Western Australia Department of Biodiversity, Conservation and Attractions (former Western Australian Department of Parks and Wildlife)
DM	Duty Manager
EMBA	Environment that May Be Affected
EMSA	European Maritime Safety Agency
EP	Environment Plan
Environment Regulations	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2023
ESI	Environmental Sensitivity Index
ESD	Emergency Shut Down
ESP	Environmental Services Panel
FPSO	Floating Production Storage Offloading
FSP	First Strike Plan
GIS	Geographic Information System
GPS	Global Positioning System
HSP	Hydrocarbon Spill Preparedness
IAP	Incident Action Plan
IC	Incident Commander
ICE	Internal Control Environment
IMSA	Index of Marine Surveys for Assessment
IMT	Incident Management Team
IPIECA	International Petroleum Industry Environment Conservation Association
ITOPF	International Tanker Owners Pollution Federation
IUCN	International Union for Conservation of Nature
KBSF	King Bay Supply Facility

Abbreviation	Meaning
KIMC	Karratha Incident Management Centre
KSAT	Kongsberg Satellite
LOWC	Loss of Well Containment
MODU	Mobile Offshore Drilling Unit
MoU	Memorandum of Understanding
NEBA	Net Environmental Benefit Analysis
NOAA	National Oceanic and Atmospheric Administration
NRT	National Response Team
OILMAP	Oil Spill Model and Response System
OMP	Operational Monitoring Program
OPEP	Oil Pollution Emergency Plan
OPGGSA	Offshore Petroleum and Greenhouse Gas Storage Act
OSM	Operational and Scientific Monitoring
OSRL	Oil Spill Response Limited
OSTM	Oil Spill Trajectory Modelling
OWR	Oiled Wildlife Response
OWRP	Oiled Wildlife Response Plan
PAP	Petroleum Activities Program
PEARLS	People, Environment, Asset, Reputation, Livelihood and Services
PBA	Pre-emptive Baseline Areas
PPA	Priority Protection Area
PPB	Parts per billion
PPM	Parts per million
ROV	Remotely Operated Vehicle(s)
RPA	Response Protection Area
SCAT	Shoreline Contamination Assessment Techniques
S&EM	Security and Emergency Management
SIMA	Spill Impact Mitigation and Assessment
SIMAP	Integrated Oil Spill Impact Model System
SSDI	Subsea Dispersant Injection
SFRT	Subsea First Response Toolkit
SMP	Scientific monitoring program
SOP	Standard Operating Procedure
TRP	Tactical Response Plan
UAS	Unmanned Aerial Systems
UAV	Unmanned Aerial Vehicles
VOC	Volatile Organic Compound
WHA	World Heritage Area
Woodside	Woodside Energy Limited
WCC	Woodside Communication Centre

Abbreviation	Meaning
WWCI	Wild Well Control Inc
WCCS	Worst Case Credible Scenario
ZoA	Zone of Application

ANNEX A: NET ENVIRONMENTAL BENEFIT ANALYSIS DETAILED OUTCOMES

A NEBA has been conducted to assess the net environmental benefit of different response techniques to selected receptors in the event of an oil spill from the PAP for [scenario/oil type] and [scenario/oil type]. The complete list of potential receptor locations within the EMBA within the PAP is included in Section 6 of the EP.

The locations utilised for the NEBA were limited to the identified RPAs of the PAP identified from modelling (see Section 3 for outline of selection). These include receptors which have potential for the following:

- Surface contact (>50 g/m^2)
- Shoreline accumulation (>100 g/m^2) at any time

The detailed NEBA assessment outcomes are shown below. The Okha FPSO Operations preoperational NEBAs contains the full assessments.

Table A-1: NEBA assessment technique recommendations for Cossack Light Crude from a loss of well containment (MEE-01)

Receptor	Monitor and evaluate	Source control and well intervention	Dispersant application: sub-sea	Dispersant application: >20 m water depth and >10 km from shore/reefs	Containment and recovery	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	In situ burning	Mechanical dispersion	Oiled wildlife response
Exmouth	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Bessieres Island	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Cunningham Island, including Imperieuse Reef (Rowley Shoals MP)	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Flat Island	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Montebello Islands (inc. Montebello MP and Hermite Island)	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Muiron Islands including MMA and WHA	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Round Island	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Serrurier Island	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Southern Pilbara - Islands, inc. Peak Island	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Sunday Island	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Table Island	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
Ningaloo Coast/MP (inc. Cape Range)	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes

Overall assessment

Sensitive receptor (sites identified in EP)	Monitor and evaluate	Source control and well intervention	Dispersant application: sub-sea	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	Containment and recovery	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	In situ burning	Mechanical dispersion	Oiled wildlife response
Is this response Practicable?	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes
NEBA identifies response potentially of net	Yes	Yes	No	No	No	Yes	Yes	Yes	No	No	No	Yes

environmental benefit?												

Table A-2: NEBA assessment technique recommendations for Cossack Light Crude from a vessel cargo tank rupture (MEE-05)

Receptor	Monitor and evaluate	Source control (vessel)	Dispersant application: sub-sea	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	Containment and recovery	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	In situ burning	Mechanical dispersion	Oiled wildlife response
Barrow Island	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Dampier Archipelago	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Montebello Islands and State MP	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Muiron Islands including MMA and WHA	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Ningaloo Coast (Middle and North inc. WHA)	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Pilbara Islands (Middle and Southern Island Groups)	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Rowley Shoals - Clerke Reef State MP	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Exmouth Gulf West	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
Lowendal Islands	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes

Overall assessment

Sensitive receptor (sites identified in EP)	Monitor and evaluate	Source control (vessel)	Dispersant application: sub-sea	Dispersant application: > 20 m water depth and > 10 km from shore/reefs	Containment and recovery	Shoreline protection	Shoreline clean-up (manual)	Shoreline clean-up (mechanical)	Shoreline clean-up (chemical)	In situ burning	Mechanical dispersion	Oiled wildlife response
Is this response Practicable?	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes
NEBA identifies response potentially of net environmental benefit?	Yes	Yes	N/A	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes

NEBA Impact Ranking Classification Guidance

To reduce variability between assessments, the following ranking descriptions have been devised to guide the workshop process:

			Degree of impact[8]	Potential duration of impact	Equivalent Woodside Corporate Risk Matrix Consequence Level
Positive	3P	Major	Likely to prevent: • behavioural impact to biological receptors • behavioural impact to socio-economic receptors e.g. changes to day-today business operations, public opinion/behaviours (e.g. avoidance of amenities such as beaches) or regulatory designations.	Decrease in duration of impact by > 5 years	N/A
	2P	Moderate	Likely to prevent: • significant impact to a single phase of reproductive cycle of biological receptors • detectable financial impact, either directly (e.g. loss of income) or indirectly (e.g. via public perception), for socio-economic receptors.	Decrease in duration of impact by 1–5 years	N/A

	1P	Minor	Likely to prevent impacts on:
			• significant proportion of population or breeding stages of biological receptors
			• socio-economic receptors such as:
			  ○ significant impact to the sensitivity of protective designation; or
			  ○ significant and long-term impact to business/industry.
				Decrease in duration of impact by several seasons (< 1 year)	N/A

	0	Non-mitigated spill impact	**No detectable difference to unmitigated spill scenario.**		
Negative	1N	Minor	Likely to result in: • behavioural impact to biological receptors • behavioural impact to socio-economic receptors e.g. changes to day-to-day business operations, public opinion/behaviours (e.g. avoidance of amenities such as beaches), or regulatory designations.	Increase in duration of impact by several seasons (< 1 year)	Increase in risk by one sub-category, without changing category (e.g. Minor (E) to Minor (D))
	2N	Moderate	Likely to result in: • significant impact to a single phase of reproductive cycle for biological receptors; or • detectable financial impact, either directly (e.g. loss of income) or indirectly (e.g. via public perception), for socio-economic receptors. This level of negative impact is recoverable and unlikely to result in closure of business/industry in the region.	Increase in duration of impact by 1–5 years	Increase in risk by one category (e.g. Minor (D) to Moderate (C or B))

	3N	Major	Likely to result in impacts on:
			• significant proportion of population or breeding stages of biological receptors
			• socio-economic receptors resulting in either:
			  ○ significant impact to the sensitivity of protective designation; or
			  ○ significant and long-term impact to business/industry.
				Increase in duration of impact by > 5 years or unrecoverable	Increase in risk by two categories (e.g. Minor (E) to Major (A))

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[8] NOTE: the maximum likely impact should be considered; for example, if a spill were to directly impact the behaviour that results in an impact to reproduction and/or the breeding population (such as fish failing to aggregate to spawn), then the score should be a 2 or 3 rather than a 1. Similarly, if a change in behaviour resulted in an increased risk of mortality of a population, then it should be scored as a 2 or 3

ANNEX B: MONITOR AND EVALUATE ACTIVATION AND TERMINATION CRITERIA

Table B-1: Monitor and evaluate objectives, triggers and termination criteria

Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
Operational Monitoring Operational Plan – Predictive Modelling of Hydrocarbons to Assess Resources at Risk	Predictive modelling focuses on the conditions that have prevailed since a spill commenced, as well as those that are forecasted in the short term (1–3 days ahead) and longer term. Predictive modelling utilises computer-based forecasting methods to predict hydrocarbon spill movement and guide the management and execution of spill response operations to maximise the protection of environmental resources at risk. The objectives of predictive modelling are to: • Provide forecasting of the movement and weathering of spilled hydrocarbons • Identify resources that are potentially at risk of contamination • Provide simulations showing the outcome of alternative response options (booming patterns etc.) to inform on-going Net Environmental Benefit Analysis (NEBA) and continually assess the efficacy of available response options in order to reduce risks to ALARP	Predictive modelling will be triggered immediately following a level 2/3 hydrocarbon spill.	The criteria for the termination of predictive modelling are: • The hydrocarbon discharge has ceased and no further surface oil is visible • Response activities have ceased • Hydrocarbon spill modelling (as verified by surveillance observations) predicts no additional natural resources will be impacted

Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
Operational Monitoring Operational Plan – Surveillance and reconnaissance to detect hydrocarbons and resources at risk	Surveillance and reconnaissance aims to provide regular, on-going hydrocarbon spill surveillance throughout a broad region, in the event of a spill. The objectives of surveillance and reconnaissance are: • Verify spill modelling results and recalibrate spill trajectory models . • Understand the behaviour, weathering and fate of surface hydrocarbons. • Identify environmental receptors and locations at risk or contaminated by hydrocarbons. • Inform ongoing Net Environmental Benefit Analysis (NEBA) and continually assess the efficacy of available response options in order to reduce risks to ALARP. • To aid in the subsequent assessment of the short- to long-term impacts and/or recovery of natural resources (assessed in SMPs) by ensuring that the visible cause and effect relationships between the hydrocarbon spill and its impacts to natural resources have been observed and recorded during the operational phase.	Surveillance and reconnaissance will be triggered immediately following a level 2/3 hydrocarbon spill.	The termination triggers for the Surveillance and reconnaissance are: • 72 hours has elapsed since the last confirmed observation of surface hydrocarbons. • Latest hydrocarbon spill modelling results do not predict surface exposures at visible levels.

Operational Monitoring Operational Plan	Objectives	Activation triggers	Termination criteria
Operational Monitoring Operational Plan – Pre-emptive assessment of sensitive receptors at risk	Pre-emptive shorelines assessment aims to undertake a rapid assessment of the presence, extent and current status of shoreline sensitive receptors prior to contact from the hydrocarbon spill, by providing categorical or semi-quantitative information on the characteristics of resources at risk. The primary objective of pre-emptive shorelines assessment is to confirm understanding of the status and characteristics of environmental resources, predicted by predictive modelling and surveillance, to be at risk, to further assist in making decisions on the selection of appropriate response actions and prioritisation of resources. Indirectly, qualitative/semi-quantitative pre-contact information collected by pre-emptive shorelines assessment on the status of environmental resources may also aid in the verification of environmental baseline data and provide context for the assessment of environmental impacts, as determined through subsequent SMPs. Pre-emptive shorelines assessment would be undertaken in liaison with WA DTMI as the control agency once the oil is in State Waters (if a Level 2/3 incident).	Triggers for commencing pre-emptive shorelines assessment include: • Contact of a sensitive habitat or shoreline is predicted by predictive modelling and surveillance. • The pre-emptive assessment methods can be implemented before contact from hydrocarbons (once a receptor has been contacted by hydrocarbons it will be assessed via SCAT.	The criteria for the termination of pre-emptive shorelines assessment at any given location are: • Locations predicted to be contacted by hydrocarbons have been contacted. • The location has not been contacted by hydrocarbons and is no longer predicted to be contacted by hydrocarbons (resources should be reallocated as appropriate).

ANNEX C: OSM ACTIVITY SPECIFIC REQUIREMENT AND VERIFICATION OF OSM-BIP ADEQUACY

The Woodside OSM-BIP defines the following three step process for ensuring that the OSM-BIP adequately covers the following requirements for each activity (Refer to Section 1.1 and Appendix A of the OSM-BIP):

- activity-specific EMBA;
- determination of activity-specific first-strike monitoring priorities and confirmation that a baseline review has been undertaken for these locations; and
- activity-specific capability requirements.

Step 1: Determine if the new activity EMBA fits within the OSM-BIP Combined Socio-Cultural EMBA

The Socio-Cultural EMBA for the PAP credible spill scenarios as shown in Figure C-1 fits within the OSM-BIP Combined Socio-Cultural EMBA (Figure 2-1 in the OSM-BIP).

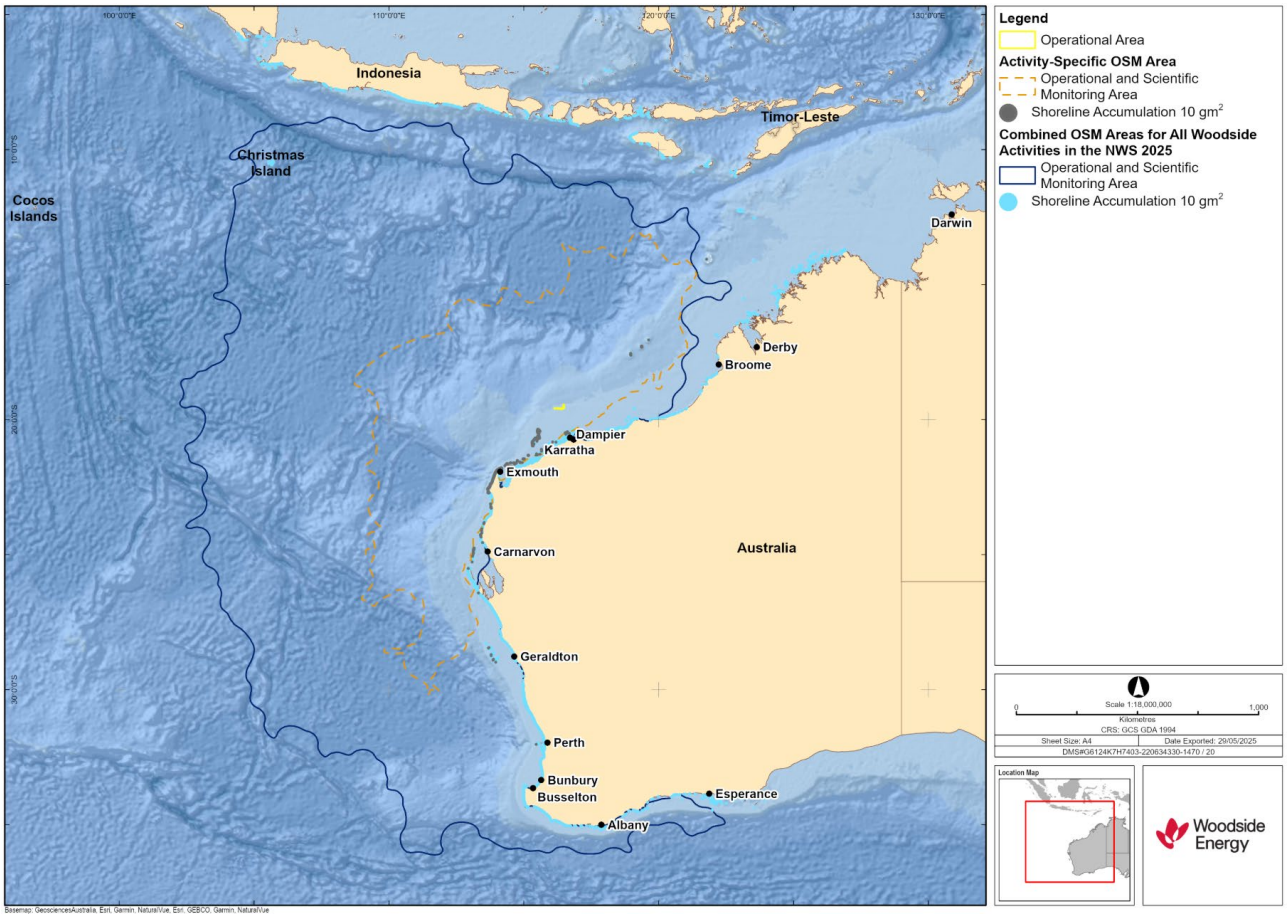

Figure C-1: PAP Socio-Cultural EMBA based on the area potentially contacted by the low (below ecological impact) entrained hydrocarbon threshold of 10 ppb in the event of the worst-case credible spill scenario (MEE-01 and MEE-05).

Step 2: Determine monitoring priorities and confirmation that a baseline review has been undertaken for these locations

Monitoring Priorities for PAP Activities

Monitoring priorities for PAP activities were established using stochastic modelling results from two worst-case scenarios (Table C - 1). These priorities focus on locations predicted to be contacted by hydrocarbons at the low threshold for floating (≥1 g/m^2), shoreline contact (≥10 g/m^2), entrained (≥10 ppb), and dissolved (≥10 ppb) hydrocarbons within 7.0 days at a probability >10%.

While Table C - 1 provides planning guidance for monitoring priorities for each spill scenario, actual monitoring priorities during a spill will depend on the specific circumstances. It is important to note that stochastic

modelling results represent multiple possible outcomes rather than predicting a single spill's behaviour. In reality, metocean conditions at the time will determine which locations are affected and will likely comprise a smaller subset of the locations that were identified through stochastic modelling.

Monitoring prioritisation during a spill should emphasise locations with the highest risk of adverse consequences, particularly, shallow waters, sensitive habitats, and areas supporting protected species. Generally, shorelines and their adjacent nearshore environments take precedence over offshore features such as reefs, shoals, and banks, except when these offshore locations are the primary areas impacted by the spill or are of ecological significance.

The availability of baseline data may influence monitoring priorities. Section 4 of the OSM-BIP outlines Woodside's baseline review and evaluation process, with summarising baseline data adequacy for each PAP monitoring priorities. Priority may be given to those locations and receptors where there is no or insufficient baseline. Additional guidance for prioritisation can be drawn from the WA DTMI protection priority rankings, established through the Western Australian Marine Oil Pollution Risk Assessment.

For guidance on real-time prioritisation during an active spill, consult the monitoring priorities checklist provided in Table 13-1 of the OSM BIP.

Table C - 1: Modelling results for locations with a probability of contact ≥10% and <7 days

Location	Total contact probability (%) floating oil ≥1 g/m²	Min. arrival time floating oil ≥1 g/m² (days)	Total contact probability (%) shoreline accumulation ≥10 g/m²	Min. arrival time shoreline accumulation ≥10 g/m² (days)	Probability (%) entrained oil at ≥10 ppb	Min. arrival time entrained oil ≥10 ppb (days)	Probability (%) dissolved oil at ≥10 ppb	Min. arrival time dissolved oil ≥10 ppb (days)
MEE-01								
Montebello MP*	2	41	*No contact*	*No contact*	91	4	72	*5*
Glomar Shoal*	*No contact*	*No contact*	*No contact*	*No contact*	6	4	31	*5*
Rankin Bank*	3	10	*No contact*	*No contact*	85	3	77	4
MEE-05								
Barrow Island	3	7	7	7	18	6	8.5	7
Montebello Islands	2	7	8	8	18	5	8.5	6
Lowendal Islands	1	14	9	9	13	7	0.5	14
Glomar Shoal*	7	2	*No contact*	*No contact*	8	2	13.5	*2*
Rankin Bank*	5	5	*No contact*	*No contact*	21	4	15	*5*
Montebello MP*	10	4	*No contact*	*No contact*	47	3	41	*3*
Montebello State Marine Park*	4	7	8	8	20	5	12.5	*5*

**Submerged receptor that has no features above the sea surface. Modelling indicates 'contact' with these receptors when the hydrocarbons pass over the receptor on the sea surface.*

Table C - 2: Baseline data assessment versus SMPs for identified PAP monitoring priorities

Scientific monitoring priority area	Water quality impact assessment	Sediment quality impact assessment	Intertidal and coastal habitat assessment	Seabirds and shorebirds	Marine megafauna assessment-reptiles	Marine megafauna assessment-whale sharks, dugong and cetacean	Benthic habitat assessment	Marine fish and elasmobranch assemblages assessment	Fisheries impact assessment	Heritage and social impact assessment
Montebello Islands										
Barrow Island					Flatback turtle Green turtle, hawksbill turtle, sea snake					
Lowendal Islands				Shearwater	Turtles at Varanus Is					
Reefs, shoals and banks										

Key	
	Current baseline data is not in place, not suitable or not sufficient
	Collectively there is substantial baseline data or on-going monitoring from within the last 5 years

Step 3: Determine whether the capability requirements and monitoring arrangements of the new activity exceed or are met by the capability requirements outlined in Section 8 and capability arrangements described in Section 9 and 10 of the OSM-BIP.

As per the criteria outlined in Appendix A of the Woodside OSM-BIP, oil spill modelling for the PAP credible spill scenarios predicts that up to a maximum of four receptors could be contacted within 7 days at a probability of >10% for MEE-05 (Table C - 1). Given the resource estimates in Section 8 of the OSM-BIP are determined for 5 sites for week 1 and 6 sites for week 2, the available capability for PAP activities are met by the worst-case capability requirements presented in Section 8 of the Woodside OSM-BIP. Therefore, additional deterministic modelling for PAP activities is not required to inform OSM first-strike capabilities.

The timeframes for the mobilisation of relevant OSM components are shown in Table C - 3. Monitor and Evaluate activities will capture initial observations of fauna, habitat, and other sensitive receptors near the spill area. Water samples will be collected during vessel surveillance for OM1: Hydrocarbon Characterisation, when safe to do so. SCAT teams will begin mobilisation within 48 -72 hours of notification and will also document fauna observations.

Through Woodside's membership in the OSRL OSM Supplementary Agreement, OSM services are available for preparedness, activation, and monitoring (detailed in Section 9 of the OSM-BIP). This agreement ensures operational monitoring personnel can deploy within 72 hours of notification, and scientific monitoring personnel within 5-7 days.

Some locations may be impacted before monitoring teams can begin their assessments. Given this constraint and the limited baseline data at many priority monitoring locations, scientific monitoring will likely need to use a combination of approaches including gradient analysis, impact versus control comparisons, and lines of evidence methodologies. During a spill, it may be necessary to identify additional unaffected control sites for comparative monitoring where possible. Co-mobilisation of certain OMPs and SMPs may also be utilised to maximise resources as outlined in Table 8-3 and Table 8-4 of the OSM-BIP.

Woodside's OSM capability arrangements are detailed in Sections 9 and 10 of the OSM-BIP and are structured to address Woodside's worst-case spill scenario across all Australian activities as described in Section 8 of the OSM-BIP. These sections demonstrate that Woodside has established arrangements to mobilise up to 6 teams for most OMPs and SMPs, confirming that the OSM capability requirements for PAP activities are fully satisfied by the existing capability arrangements in the OSM-BIP.

Table C - 3: Timeframes for mobilisation of relevant OSM components from time of notification

0 – 24 hours	< 48 hours	< 72 hours	5-7 days
• Monitor and Evaluate- aerial surveillance (including initial collection of data on all fauna observations habitat or other sensitive receptors observed)	• Monitor and Evaluate- vessel surveillance (including collection of data on all fauna observations, habitat or other sensitive receptors observed) • Collection of surface water samples to be used in OM1: Hydrocarbon Characterisation • Monitor and Evaluate- Drones/UAVs for surveillance (including collection of data on all fauna observations, habitat or other sensitive receptors observed)	• OSRL OSM Supplementary Agreement Operational Monitoring services (all activated OMPs included under the agreement) • OM6: SCAT	• OSRL OSM Supplementary Agreement Scientific Monitoring services (all activated SMPs included under the agreement)

ANNEX D: TACTICAL RESPONSE PLANS

TACTICAL RESPONSE PLANS
Exmouth
Mangrove Bay
Turquoise Bay
Yardie Creek
Muiron Islands
Jurabi to Lighthouse Beaches Exmouth
Ningaloo Reef – Refer to Mangrove/ Turquoise Bay and Yardie Creek
Exmouth Gulf
Shark Bay Area 1: Carnarvon to Wooramel
Shark Bay Area 2: Wooramel to Petite Point
Shark Bay Area 3: Petite Point to Dubaut Point
Shark Bay Area 4: Dubaut Point to Herald Bight
Shark Bay Area 5: Herald Bight to Eagle Bluff
Shark Bay Area 6: Eagle Bluff to Useless Loop
Shark Bay Area 7: Useless Loop to Cape Bellefin
Shark Bay Area 8: Cape Bellefin to Steep Point
Shark Bay Area 9: Western Shores of Edel Land
Shark Bay Area 10: Dirk Hartog Island
Shark Bay Area 11: Bernier and Dorre Islands
Abrohlos Islands: Pelseart Group
Abrohlos Islands: Wallabi Group
Abrohlos Islands: Easter Group
Dampier
Rankin Bank & Glomar Shoals
Barrow and Lowendal Islands
Pilbara Islands – Southern Island Group
Montebello Island – Stephenson Channel Nth TRP
Montebello Island – Champagne Bay and Chippendale channel TRP
Montebello Island – Claret Bay TRP
Montebello Island – Hermite/Delta Island Channel TRP
Montebello Island – Hock Bay TRP
Montebello Island – North and Kelvin Channel TRP
Montebello Island – Sherry Lagoon Entrance TRP
Withnell Bay
Holden Bay
King Bay
No Name Bay / No Name Beach
Enderby Island – Dampier
Rosemary Island – Dampier
Legendre Island – Dampier
Karratha Gas Plant

KGP to Withnell Creek
KGP to Northern Shore
KGP Fire Pond & Estuary
KGP to No Name Creek
Broome
Sahul Shelf Submerged Banks and Shoals
Clerke Reef (Rowley Shoals)
Imperieuse Island (Rowley Shoals)
Mermaid Reef (Rowley Shoals)
Scott Reef
Oiled Wildlife Response
Exmouth
Dampier region
Shark Bay

APPENDIX H OIL POLLUTION FIRST STRIKE PLAN

Woodside Energy

Okha Floating Production Storage and Offloading Facility Operations – Oil Pollution First Strike Plan

Corporate HSE

Hydrocarbon Spill Preparedness

July 2025
Revision 8a

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CONTROL AGENCIES AND INCIDENT CONTROLLERS

Source	Location	Level	Jurisdictional Authority/ Hazard Management Agency	Control Agency	Incident Controller
Spill from facility including subsea infrastructure Note: pipe laying and accommodation vessels are considered a "facility" under Australian regulations	Commonwealth waters	1	NOPSEMA	Woodside	Person In Charge (PIC) with support from Onshore Team Leader (OTL)
		2/3		Woodside	Corporate Incident Management Team Incident Commander (CIMT IC)
	State waters	1/2/3	Western Australian Department of Transport and Major Infrastructure (DTMI)	DTMI	DTMI Incident Controller
	Within port limits	1	DTMI	Port Authority	Port Harbour Master
		2/3		Port Authority/ DTMI	Port Harbour Master/ DTMI Incident Controller
Spill from vessel Note: SOPEP should be implemented in conjunction with this document	Commonwealth waters	1	Australian Marine Safety Authority (AMSA)	AMSA	Vessel Master
		2/3		AMSA	AMSA (with response assistance from Woodside)
	State waters	1/2/3	DTMI	DTMI	DTMI Incident Controller
	Within port limits	1	DTMI	Port Authority	Port Harbour Master
		2/3		Port Authority/ DTMI	Port Harbour Master/ DTMI Incident Controller

SPILLS IN STATE WATERS

In the event of a hydrocarbon spill (hereafter 'spill') where Woodside Energy Ltd ('Woodside') is the responsible party and the spill may impact State waters and shorelines, Woodside (or the Vessel Master) will commence the initial response actions and notify the Western Australian Department of Transport and Major Infrastructure (DTMI).

Initially Woodside will be required to make available an appropriate number of suitably qualified persons to work in the DTMI IMT (APPENDIX F – Woodside Liaison Officer Resources to DTMI). DTMI's role as the Controlling Agency in State waters does not negate the requirement for Woodside to have appropriate plans and resources in place to adequately respond to a marine hydrocarbon spill incident in State Waters or to commence the initial response actions to a spill prior to DTMI establishing incident control in line with DTMI *Offshore Petroleum Industry Guidance Note – Marine Oil Pollution: Response and Consultation Arrangements* (July 2020). Cost recovery arrangements for offshore marine pollution incidents (MOP) are in accordance with Section 9 of the Guidance Note:

https://www.transport.wa.gov.au/mediaFiles/marine/MAC_P_Westplan_MOP_OffshorePetroleumIndGuidance.pdf

Woodside's Incident Management Structure for a hydrocarbon spill, including Woodside Liaison Officer's command structure within DTMI can be seen at APPENDIX E – Woodside Incident Management Structure.

The coordination structure for a concurrent hydrocarbon spill in both Commonwealth and State waters/ shorelines is shown in APPENDIX D – Coordination structure for a concurrent hydrocarbon spill in both Commonwealth and State Waters/ shorelines.

RESPONSE PROCESS OVERVIEW

	For guidance on credible scenarios and hydrocarbon characteristics, refer to APPENDIX A	
ALL INCIDENTS	Notify the Woodside Communication Centre (WCC) on: [1]	
	Incident Controller or delegate to make relevant notifications in **Table 1-1** of this Oil Pollution First Strike Plan.	
LEVEL 1	**FACILITY INCIDENT**	**VESSEL INCIDENT**
	Coordinate pre-identified tactics in **Table 2-1** of this Oil Pollution First Strike Plan. Remember to download each Operational Plan.	Notify AMSA and coordinate pre-identified tactics in **Table 2-1** of this Oil Pollution First Strike Plan Remember to download each Operational Plan.
	If the spill escalates such that the site cannot manage the incident, inform the WCC on: [1] and escalate to a level 2/3 incident.	
LEVEL 2/3	**FACILITY INCIDENT**	**VESSEL INCIDENT**
	Handover control to CIMT and notify DTMI.	Handover control to AMSA and stand up CIMT to assist.
	Commence quick revalidation of the recommended strategies on **Table 2-1** taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.	If requested by AMSA: Commence quick revalidation of the recommended strategies on **Table 2-1** taking into consideration seasonal sensitivities and current situational awareness. Commence validated strategies.
	Create an Incident Action Plan (IAP) for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational Net Environmental Benefit Analysis (NEBA) see the OSPRMA Appendix A.	If requested by AMSA: Create an IAP for all ongoing operational periods. The content of the IAP should reflect the selected response strategies based on current situational awareness. For the full detailed pre-operational NEBA see the OSPRMA Appendix A.

1. NOTIFICATIONS

The Incident Controller or delegate must ensure the below notifications (Table 1-1) are completed within the designated timeframes.

For spills from a vessel, relevant notifications must be undertaken by a Woodside representative.

Table 1-1: Notifications

In the event of an incident between campaign vessels, also activate relevant vessel Emergency Response Plans and/or Bridging Documents

Timing	By	To	Name	Contact	Instruction	Form	Complete? (✓)
NOTIFICATIONS FOR ALL LEVELS OF SPILL							
Immediately	Offshore Installation Manager (OIM) or Vessel Master	Woodside Communication Centre (WCC)	Corporate Incident Management Team Incident Commander (CIMT IC)	[1]	Verbally notify WCC of event and estimated volume and hydrocarbon type.	Verbal	
Within 2 hours	Woodside Site Rep (WSR), CIMT IC or Delegate	National Offshore Petroleum Safety Environmental Management Authority (NOPSEMA[1])	Incident notification office	[2]	Verbally notify NOPSEMA for spills >80L. Record notification using Initial Verbal Notification Form or equivalent and send to NOPSEMA as soon as practicable (cc to NOPTA and DMPE).	Link	
Within 3 days	WSR, CIMT IC or Delegate				Provide a written NOPSEMA Incident Report Form as soon as practicable (no later than 3 days after notification) (cc to NOPTA and DMPE) NOPSEMA [2] NOPTA [3] DMPE [4]	[2]	
As soon as practicable	CIMT IC or Delegate	Woodside	Environment Unit Leader	As per roster	Verbally notify Environment Unit Leader of event and seek advice on relevant performance standards from EP	Verbal	
Within 2 hours of becoming aware of a marine pollution incident (MOP) that occurs in or may impact state waters	CIMT IC or Delegate	WA Department of Transport and Major Infrastructure	DTMI Maritime Environmental Emergency Response Unit (MEER) Duty Officer	[5]	Verbally notify DTMI MEER Duty Officer that a spill has occurred and, if required, request use of equipment stored in Karratha/Fremantle/]. Follow up with a written Marine Pollution Report (POLREP) as soon as practicable following verbal notification. Additionally, DTMI to be notified if spill is likely to extend into WA State waters. Request DTMI to provide Liaison to Woodside IMT.	[5]	
Within 24 hours of Woodside reporting the incident to the appropriate authority	CIMT IC or Delegate	Department of Primary Industries and Regional Development (DPIRD)		[6]	Notification to DPIRD via email within 24 hours of Woodside reporting the incident to the appropriate authority: [6]	Email	
Within 24 hours of Woodside reporting the incident to the appropriate authority	CIMT IC or Delegate	WA Fishing Industry Council (WAFIC)	Industry Liaison Officer	[15]	Notification to WAFIC via email within 24 hours of Woodside reporting the incident to the appropriate authority: [15]	Email	
As soon as practicable	CIMT IC or Delegate	Department of Climate Change, Energy, the Environment and Water (DCCEEW) Director of National Parks	Marine Park Compliance Duty Officer	[7]	The Marine Park Compliance Duty Officer is notified in the event of oil pollution within a marine park, or where an oil spill response action must be taken within a marine park, so far as reasonably practicable, prior to response action being taken. This notification should include: • titleholder details • time and location of the incident • proposed response arrangements and locations as per the OPEP • contact details for the response coordinator • confirmation of access to relevant monitoring and evaluation reports when available.	Verbal	
As soon as practicable if there is potential for oiled wildlife or the spill is	CIMT IC or Delegate	WA Department of Biodiversity, Conservation	Duty Officer	[8]	Phone call notification	Verbal	

[1] Notification to NOPSEMA must be from a Woodside Representative.

expected to contact land or waters managed by WA Department of Biodiversity, Conservation and Attractions		and Attractions (DBCA)					
As soon as practicable	Public Information	Relevant persons/ organisations	To be determined	To be determined	Should it be identified that additional persons such as, but not limited to, commercial fishers or tourism operators may be affected, Woodside would, at the relevant time, engage with these parties as appropriate and in alignment with the Oil Spill Preparedness and Response Mitigation Assessment (OSPRMA) for Okha FPSO. Relevant persons/ organisations will be re-assessed throughout the response period.	Verbal initially	
As soon as practicable	Public Information	Relevant cultural authorities	To be determined	To be determined	Should it be identified that relevant cultural authorities may be affected, Woodside would, at the relevant time, engage with these parties as appropriate and in alignment with the OSPRMA for Okha FPSO. Relevant cultural authorities will be re-assessed throughout the response period.	Verbal initially	
ADDITIONAL NOTIFICATIONS TO BE MADE ONLY IF SPILL IS FROM A VESSEL							
"Without delay" as per *Protection of the Sea (Prevention of Pollution from Ships) Act 1983* (Cth) s 11(1)	Vessel Master	Australian Maritime Safety Authority (AMSA)	Rescue Coordination Centre (RCC)	[9]	Verbally notify AMSA RCC of the hydrocarbon spill. Follow up with a written Harmful Substances Report (POLREP) as soon as practicable following verbal notification.	[9]	
ADDITIONAL LEVEL 2/3 NOTIFICATIONS							
As soon as practicable	CIMT IC or Delegate	AMOSC	AMOSC Duty Manager	[10]	Notify AMOSC that a spill has occurred and follow-up with an email from the **CIMT IC/ CIMT Deputy IC/ CMT Leader** to formally activate AMOSC. Determine what resources are required consistent with the AMOS Plan and detail in a Service Contract that will be sent to Woodside from AMOSC upon activation.	[10]	
As soon as practicable	CIMT IC or Delegate	Oil Spill Response Limited (OSRL)	OSRL Duty Manager	[11]	Notification for all services: Contact OSRL duty manager and request assistance from technical advisor. Send the completed notification form to OSRL as soon as practicable.	[11]	
					Mobilisation of response personnel/ equipment: For mobilisation of response personnel/ resources, send the Mobilisation Form to OSRL as soon as practicable. The mobilisation form must be signed by a nominated callout authority from Woodside i.e. **CIMT IC/ CIMT Deputy IC/ CMT Leader**. OSRL can advise the names on the call out authority list, if required.	[11]	
					Mobilisation of Operational and Scientific Monitoring service: For mobilisation of Operational and Scientific Monitoring (OSM) service, send the OSM Mobilisation Form to OSRL as soon as practicable. The mobilisation form must be signed by a nominated callout authority from Woodside i.e. **CIMT IC/ CIMT Deputy IC/ CMT Leader**. OSRL can advise the names on the call out authority list, if required.	[11]	
As soon as practicable if extra personnel are required for incident support	CIMT IC or Delegate	Marine Spill Response Corporation (MSRC)	MSRC Response Manager	[12]	Activate the contract with MSRC (in full) for the provision of up to 14 personnel depending on what skills are required. Please note that provision of these personnel from MSRC are on a best endeavours basis and are not guaranteed.	Verbal	

2. RESPONSE TECHNIQUES

Table 2-1: Response techniques

Technique	Spill type			Level	Pre- Identified Tactics	Responsible	ALARP Commitment Summary	Link to Operational Plans for notification numbers and actions
	Crude LOWC	Crude Cargo	MDO					
Monitor and evaluate –tracking buoy	Yes	Yes	Yes	ALL	If a vessel is on location, consider the need to deploy the oil spill tracking buoy. If no vessel is on location, consider the need to mobilise oil spill tracking buoys from the King Bay Supply Base (KBSB) Stockpile. If a surface sheen is visible from the facility, deploy the satellite tracking buoy within two hours.	Operations	**WITHIN 2 HOURS**: Tracking buoy deployed within 2 hours.	Surveillance and Reconnaissance to Detect Hydrocarbons and Resources at Risk in Operational Monitoring Operational Plan. Deploy tracking buoy in accordance with Link.
Monitor and evaluate – predictive modelling	Yes	Yes	Yes	ALL	Undertake initial modelling using OceansMap and weathering fate analysis using Automated Data Inquiry for Oil Spills (ADIOS) or refer to the hydrocarbon information in Appendix A.	Environment	**WITHIN 6 HOURS**: Initial modelling within 6 hours using the OceansMap tool.	Predictive Modelling of Hydrocarbons to Assess Resources at Risk in Operational Monitoring Operational Plan. *Planning Section to download immediately and follow steps*
	Yes	Yes	Yes	ALL	Send Oil Spill Trajectory Modelling (OSTM) form (Appendix B, Form 7) to RPS Response ([13]). Outputs will be uploaded to OceansMap by RPS.	Environment	**WITHIN 4 HOURS**: Detailed modelling within 4 hours of RPS Response receiving information from Woodside.	
Monitor and evaluate – aerial surveillance	Yes	Yes	Yes	ALL	Instruct Aviation Unit Leader to commence aerial observations in daylight hours. Aerial surveillance observer to complete log in Appendix B Form 8.	Logistics – Aviation	**WITHIN 24 HOURS**: 2 trained aerial observers. 1 aircraft available. Report made available to the IMT within 2 hours of landing after each sortie.	Surveillance and Reconnaissance to Detect Hydrocarbons and Resources at Risk in Operational Monitoring Operational Plan. *Planning Section to download immediately and follow steps*
Monitor and evaluate – satellite tracking	Yes	Yes	Yes	ALL	Environment Unit Leader to action satellite imagery services. This may be obtained via: • AMOSC Duty Manager: [10] • OSRL Duty Manager: [11] • KSAT: [14] • Others identified by CIMT	Environment	Service provider will confirm availability of an initial acquisition within 2 hours. Data received to be uploaded into Woodside Common Operating Picture.	
Revalidate pre-operational NEBA	Yes	Yes	Yes	ALL	Environment Unit Leader to revalidate pre-operational NEBA against current situational awareness from monitor and evaluate techniques.	Environment	**WITHIN 24 HOURS**: Revalidate pre-operational NEBA and incorporate into IAP	Pre-operational NEBAs
Monitor and evaluate – pre-emptive assessment of receptors at risk	Yes	Yes	Yes	ALL	Consider the need to mobilise resources to undertake pre-emptive assessment of sensitive receptors at risk.	Planning or Environment	In agreement with WA DTMI, deployment of 2 specialists for each of the Response Protection Areas (RPA) with predicted impacts.	Pre-emptive Assessment of Sensitive Receptors in Operational Monitoring Operational Plan.
Operational monitoring – shoreline assessment	Yes	Yes	Yes	ALL	Consider the need to mobilise resources to undertake shoreline assessment surveys.	Planning or Environment	In agreement with WA DTMI (for Level 2/3 incidents), deployment of 2 x specialist(s) in SCAT from resource pool for each of the Response Protection Areas (RPAs) with predicted impacts.	Mobilise OSM service via OSRL: [11] Refer to OSM Bridging Implementation Plan – Part B for additional implementation information: Link
Operational and Scientific Monitoring	Yes	Yes	Yes	ALL	Consider the need to mobilise OSM resources via third party service provider.	Environment	**WITHIN 24 HOURS**: Notify service provider of spill event. **OSM:** OMPs and SMPs will be activated in accordance with the initiation criteria provided in Tables 9-1 and 9-2 of the Joint Industry OSM Framework (APPEA, 2021)	Refer to Joint Industry Operational And Scientific Monitoring Plan Framework for activation criteria and additional supporting information.
Surface dispersant	No	Yes	No	L2/3	Modelling predicts that use of surface dispersant would be feasible for loss of cargo tank containment scenario (MEE-05). Dispersant use would also only be permitted and/or appropriate where favourable metocean conditions are present, a net environmental benefit can be demonstrated e.g. minimising shoreline accumulations, and where application is undertaken only within the pre-defined ZoA as illustrated in Section 4 of this plan. Dispersant from Woodside and AMOSC (Dampier and Exmouth) stockpiles mobilised. Consideration of mobilisation of interstate/international dispersant stockpiles.	Logistics, Marine and Planning	1 aircraft with minimum payload of 1,850 litre mobilised to site within 4 hours of activation. 1 additional aircraft mobilised to site within another 20 hours of activation. 4 additional aircraft mobilised to site within 48 hours of activation. 1 high-capacity aircraft with minimum payload of 10 m^3 available to spray on day 2. 2 offtake support vessels from integrated fleet will undertake dispersant trials within 48 hours of the release as per first strike plan. Up to 4 vessels spraying per day by day 5. Access to 5000m^3 of dispersant on activation of GDS membership within 24-48 hours.	

Technique	Spill type			Level	Pre- Identified Tactics	Responsible	ALARP Commitment Summary	Link to Operational Plans for notification numbers and actions
	Crude LOWC	Crude Cargo	MDO					
					Modelling does not predict floating hydrocarbons at response thresholds for the loss of well containment scenario (MEE-01) and dispersant is not considered appropriate for highly volatile hydrocarbons such as MDO.			
Containment and recovery	No	Yes	No	L2/3	Modelling predicts that use of surface dispersant would be feasible for loss of cargo tank containment scenario (MEE-05). Mobilise equipment from Woodside, AMOSC, DTMI and AMSA Western Australian Stockpiles and relevant personnel. Consider mobilisation of interstate/international containment and recovery equipment and relevant personnel (i.e. OSRL). Modelling does not predict floating hydrocarbons at response thresholds for the loss of well containment scenario (MEE-01) and it is not considered safe to corral highly volatile hydrocarbons such as MDO.	Logistics and Planning	2 vessel-based containment and recovery operation would be deployed by day 2. 4 additional vessel-based containment and recovery operations using 3rd party provider resources would be deployed by day 10. Deployment of 2 containment and recovery teams would be available by day 2, and 4 containment and recovery teams available by day 5. Each operation will have internal or added 100m^3 of liquid waste storage on board.	
Mechanical dispersion	No	No	No	N/A	This response strategy is not recommended.			
In-situ burning	No	No	No	N/A	This response strategy is not recommended.			
Shoreline protection and deflection	Yes	Yes	No	L2/3	Equipment from Woodside, AMOSC and State stockpiles mobilised and relevant personnel mobilised. Consideration of mobilisation of interstate/ international shoreline protection equipment (i.e. OSRL).	Operations and Planning	In agreement with WA Dot, activate relevant TRPs within 24 hours of the release. In agreement with WA DTMI, mobilise teams (2 supervisors plus 10 additional personnel) to RPAs within 48 hours of operational monitoring predicting impacts. In agreement with WA DTMI, equipment mobilised from the closest stockpile within 48 hours of operational monitoring predicting impacts (expected to be 3 RPAs within 14 days). Supplementary equipment mobilised from AMOSC and State stockpiles within 48 hours of operational monitoring predicting impacts.	Protection and Deflection Operational Plan *Logistics Section to download immediately and follow steps*
Shoreline clean-up	Yes	Yes	No	L2/3	Equipment from Woodside, AMOSC and State stockpiles mobilised and relevant personnel mobilised. Consideration of mobilisation of interstate/international shoreline clean-up equipment and relevant personnel (i.e. OSRL).	Logistics and Planning	In agreement with WA Dot, deployment of 1 shoreline clean-up team to each contaminated RPA within 48 hours of operational monitoring predicting impacts. Relevant Tactical Response Plans (TRPs) available for shoreline contacted by accumulation >100 g/m^2 within 48 hours of operational monitoring predicting impacts. Access to at least 675 m^3 of solid and liquid waste storage available within 5 days upon activation of 3rd party contract.	Shoreline Clean-up Operational Plan *Logistics Section to download immediately and follow steps*
Oiled wildlife response	Yes	Yes	Yes	ALL	If oiled wildlife is a potential impact, request AMOSC to mobilise containerised oiled wildlife first strike kits and relevant personnel. Refer to relevant Tactical Response Plan for potential wildlife at risk. Mobilise AMOSC Oiled Wildlife Containers. Consider whether additional equipment is required from local suppliers.	Logistics and Planning	Facilities for oiled wildlife rehabilitation are operational 24/7.	Oiled Wildlife Response Operational Plan
SOURCE CONTROL TECNIQUES								
Subsea First Response Toolkit	N/A	Yes	N/A	L2/3	As per Source Control Emergency Response Planning Guideline.	Source Control	**WITHIN 48 HOURS:** Remotely Operated Vehicle (ROV) on Mobile Offshore Drilling Unit (MODU) ready for deployment within 48 hours.	Source Control Emergency Response Planning Guideline
Subsea Dispersant	N/A	No	N/A	N/A	This response strategy is not recommended – modelling for MEE-01 does not predict floating hydrocarbons at response thresholds and shoreline hydrocarbons are			
Capping Stack	N/A	No	N/A	N/A	The PAP wells have vertical Xmas trees upon which a capping stack cannot be utilised due to incompatibility of connector sizes, inadequate load bearing capacity and/or, if the tree remains in place, the existing barriers would be remain active.			
Relief Well	N/A	Yes	N/A	L2/3	As per Source Control Emergency Response Planning Guideline.	Source Control	**WITHIN 24 HOURS:** Identify source control vessel availability within 24 hours. **WITHIN 48 HOURS:** ROV on MODU ready for deployment within 48 hours.	

3. RESPONSE PROTECTION AREAS

Action: Provide relevant Control Agency with applicable Tactical Response Plans for any Response Protection Areas (RPAs) identified during operational monitoring.

Based on hydrocarbon spill risk modelling results there are no sensitive receptors with the potential to be contacted by any hydrocarbon at or above threshold levels within 48 hours of a spill.

Hydrocarbon spill modelling results indicate the sensitive receptors listed below have the potential to be contacted by hydrocarbons above threshold concentrations beyond 48 hours of a spill:

- Barrow Island
- Montebello Islands and MP including Hermite Island
- Lowendal Islands
- Muiron Islands including MMA and WHA
- Exmouth, Ningaloo Coast WH and State MP
- Pilbara Islands (Southern & Middle Island Groups)
- Bessieres Island
- Flat Island
- Round Island
- Serrurier Island
- Sunday Island

Tactical Response plans for these locations can be accessed via the link here and include the details of potential forward operating bases and staging areas.

Oil Spill Trajectory Modelling (as per OM02) specific to the spill event will be required to determine the regional sensitive receptors to be contacted beyond 48 hours of a spill.

Figure 3-1 illustrates the location of regional sensitive receptors in relation to the Okha FPSO Operations Operational Area and identifies priority protection areas.

Consideration should be given to other stakeholders (including mariners) in the vicinity of the spill location. **Table 3-2** indicates the assets within the vicinity of the Okha FPSO Operational Area.

Table 3-1: Assets in the vicinity of the Okha FPSO Operational Area

Asset	Distance and Direction from Operational Area	Operator
Angel	20 km east	Woodside
Goodwyn Alpha	54 km south-west	Woodside
NRC	32 km west	Woodside
Reindeer	51 km south	Santos
Stag	81 km south	Santos
Pluto	122 km south-west	Woodside

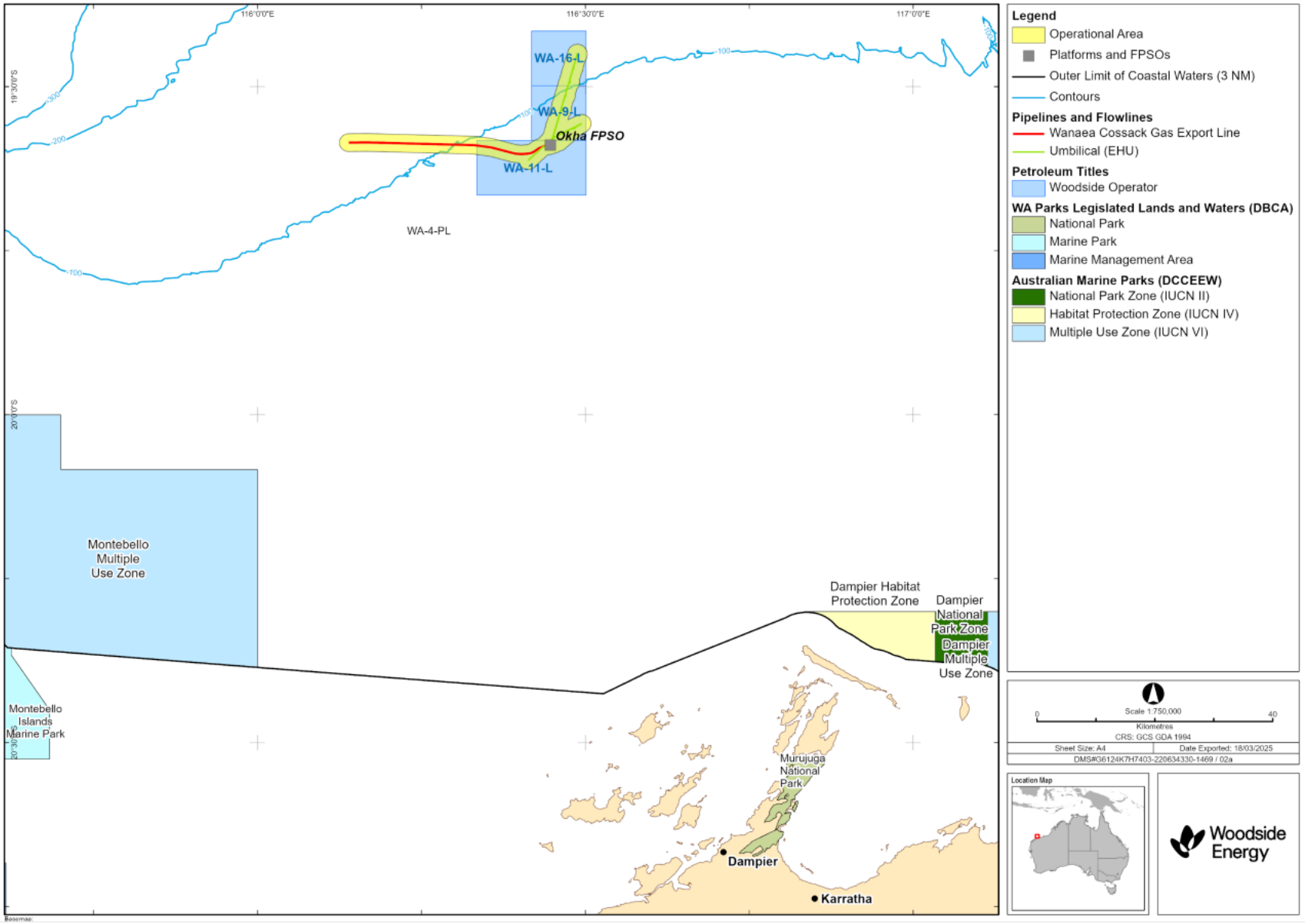


Figure 3-1: Operational area

4. DISPERSANT APPLICATION

Woodside has included surface dispersant spraying as a potential response technique in the instance that operational monitoring observes sufficient oil concentrations for it to be deployed.

INSTRUCTIONS

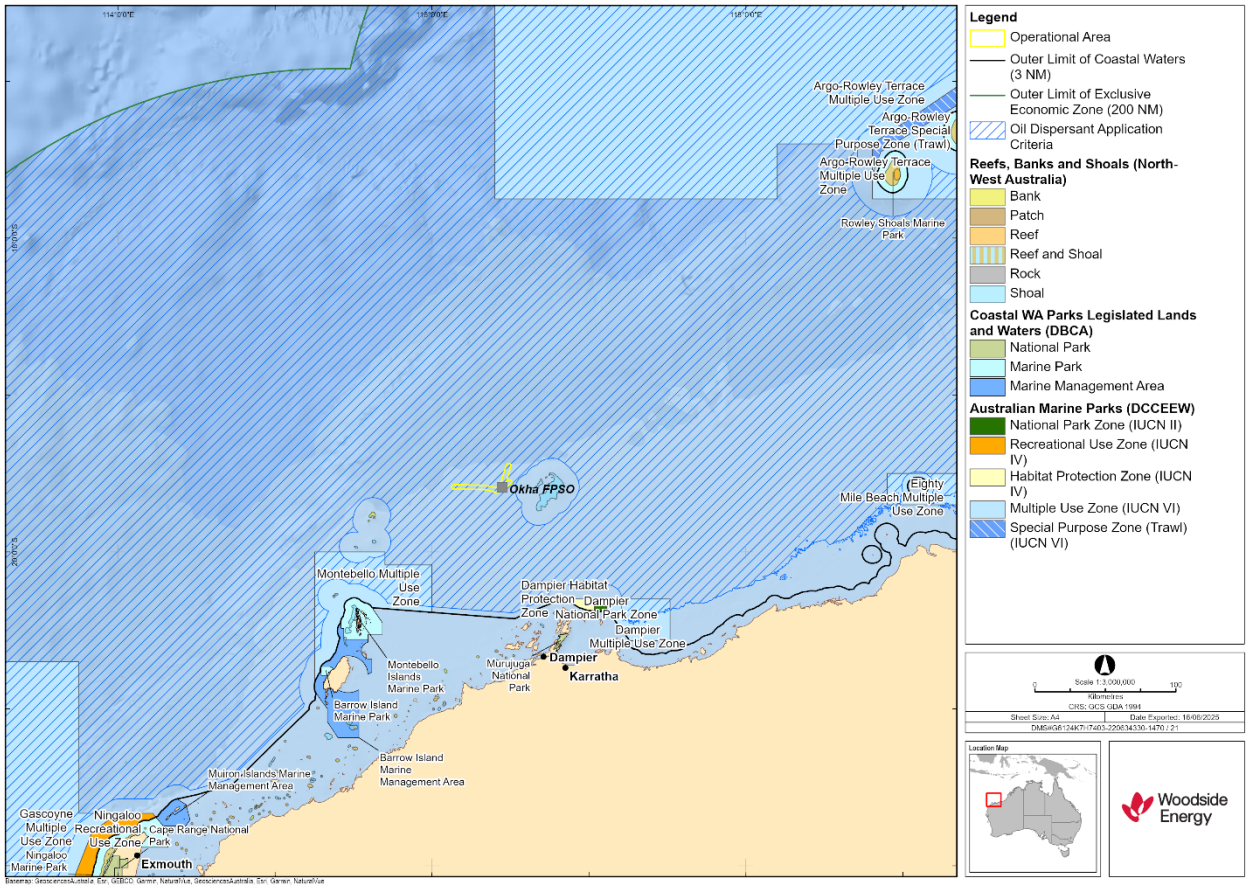
DISPERSANTS ARE PRE-APPROVED UNDER THE ENVIRONMENT PLAN FOR USE IN THE BLUE STRIPED ZONE ONLY. OSCA APPROVED OR TRANSISTIONAL DISPERSANTS ARE PRE-APPROVED FOR USE.

The shape file for the approved dispersant zone of application (ZoA) is saved in Woodside's Geospatial Corporate Geodatabase and adheres to the following criteria:

- 10km from Commonwealth Marine Parks (excluding 'Multiple Use Zones')
- 10km from State Marine Parks
- 10km from Heritage List areas
- >20m water depth
- 4km from State Waters
- Within the Mainland Australian EEZ
- Avoiding sensitive reefs and shoals

The Surface Dispersants Operational Plan should be used to mobilise dispersant operations immediately.

PRE-APPROVED DISPERSANT ZONE



DISPERSANT VOLUMES

Current dispersant volumes available should be checked in the following document:
Oil Spill Preparedness - Dispersant Stockpiles Database

APPENDIX A – CREDIBLE SPILL SCENARIOS AND HYDROCARBON INFORMATION

Table A - 1: Credible spill scenarios and hydrocarbon information

Scenario	Product	API gravity	Volume	Residue	Weathering rate		Suggested ADIOS2 Analogue[2]
Credible Spill Scenario-01 (MEE-01) (WCCS) Subsea hydrocarbon release caused by loss of containment after a loss of well control	Cossack light crude	48.1°	83,212 m^3	15.2% (12,648 m^3)	12 hours (BP < 180 °C)	52.2%	Cossack light crude API 48.1
					24 hours (180 °C < BP < 265 °C)	20.5%	
					Several days (265 °C < BP < 380 °C)	11.9%	
Credible Spill Scenario-02 (MEE-02) Subsurface hydrocarbon release caused by flowline or riser rupture	Cossack light crude	48.1	773 m^3	15.2% (117 m^3)	12 hours (BP < 180 °C)	52.2%	Cossack light crude API 48.1
					24 hours (180 °C < BP < 265 °C)	20.5%	
					Several days (265 °C < BP < 380 °C)	11.9%	
Credible Spill Scenario-03 (MEE-03) Topsides loss of containment	Cossack light crude	48.1	113.5 m^3 (<10 minutes)	15.2% (17.3 m^3)	12 hours (BP < 180 °C)	52.2%	Cossack light crude API 48.1
					24 hours (180 °C < BP < 265 °C)	20.5%	
					Several days (265 °C < BP < 380 °C)	11.9%	
Credible Spill Scenario-04 (MEE-04) Loss of containment during offtake	Cossack light crude	48.1	724 m^3	15.2% (110 m^3)	12 hours (BP < 180 °C)	52.2%	Cossack light crude API 48.1
					24 hours (180 °C < BP < 265 °C)	20.5%	
					Several days (265 °C < BP < 380 °C)	11.9%	
Credible Spill Scenario -05 (MEE-05) Cargo tank loss of containment	Cossack light crude	48.1	30,302 m^3	15.2% (4,606 m^3)	12 hours (BP < 180 °C)	52.2%	Cossack light crude API 48.1
					24 hours (180 °C < BP < 265 °C)	20.5%	
					Several days (265 °C < BP < 380 °C)	11.9%	
Credible Spill Scenario -06 (MEE-06) Loss of structural integrity	*Scenario covered by MEE-01 – MEE-05*						
Credible Spill Scenario -07 (MEE-07) Loss of marine vessel separation	Marine Diesel Oil (MDO)	37.2	105 m^3	5% (5.25 m^3)	12 hours (BP < 180 °C)	6%	Diesel Fuel Oil – Southern ISA 1 (API 37.2)
					24 hours (180 °C < BP < 265 °C)	34.6%	
					Several days (265 °C < BP < 380 °C)	54.4%	
Credible Spill Scenario -08 (MEE-08) Loss of control of suspended load	*Scenario covered by MEE-01 – MEE-05*						

[2] Initial screening of possible ADIOS2 analogues considered hydrocarbons with similar APIs. Suggested selection is based on the closest distillation cut to the Woodside hydrocarbon. Only hydrocarbons with >380°C distillation cuts were included in selection process.

APPENDIX B – NOTIFICATION FORMS

Table B - 1: Notification forms

No.	Form Name	Link
1	Record of initial verbal notification to NOPSEMA template	Link
2	NOPSEMA Incident Report Form	[2]
3	Harmful Substances Report (POLREP – AMSA)	[9]
4	Marine Pollution Report (POLREP – DTMI)	[5]
5	AMOSC Service Contract	[10]
6a	OSRL Initial Notification Form	[11]
6b	OSRL Mobilisation Activation Form	[11]
6c	OSRL Operational and Scientific Monitoring Service Mobilisation Form	[11]
7	RPS Response Oil Spill Trajectory Modelling Request	[13]
8	Aerial Surveillance Observer Log	Link
9	Tracking buoy deployment instructions	Link

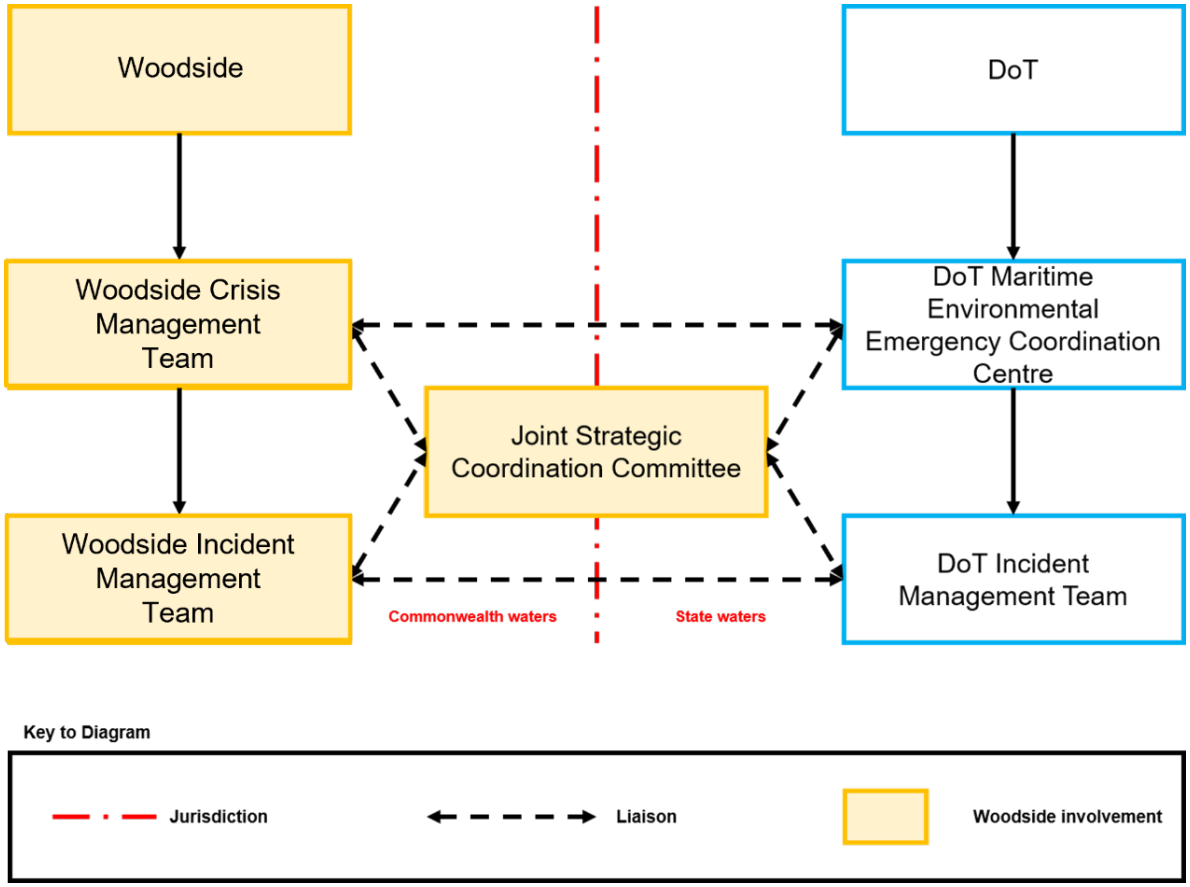
FORM 1 – RECORD OF INITIAL VERBAL NOTIFICATION TO NOPSEMA

NOPSEMA phone: [2]		
Date of call		
Time of call		
Call made by		
Call made to		
Information to be provided to NOPSEMA:		
Date and time of incident/ time caller became aware of incident		
Details of incident	**1. Location**	
	2. Title	
	3. Source	**□ Platform**
		□ Pipeline
		□ FPSO
		□ Exploration drilling
		□ Well
		□ Other (please specify)
	4. Hydrocarbon type	
	5. Estimated volume	
	6. Has the discharge ceased?	
	7. Fire, explosion or collision?	
	8. Environment Plan(s)	
	9. Other Details	
Actions taken to avoid or mitigate environmental impacts		
Corrective actions taken or proposed to stop, control or remedy the incident		
After the initial call is made to NOPSEMA, please send this record as soon as practicable to:		
NOPSEMA	**[2]**	
NOPTA	**[3]**	
DMPE	**[4]**	

APPENDIX C – SPILL ASSESSMENT QUESTIONS

What has happened?		
Date/time		
Spill source		
Spill cause		
Safety situation		
What is it?		
Oil type and name		
Oil properties	Specific gravity	
	Viscosity	
	Pour point	
	Asphaltenes	
	Wax content	
	Boiling point	
Where is it?		
Latitude and longitude		
Distance and bearing		
Affected area	☐ Offshore	
	☐ Subsea	
	☐ Shoreline	
	☐ Estuary	
	☐ Port	
	☐ Harbour	
	☐ Inland	
	☐ River	
	☐ Other (please detail):	
Water depth		
How big is it?		
Area		
Release type	☐ Instantaneous	Estimated volume:
	☐ Continuous release	Estimated release rate:
Where it is going?		
Metocean conditions		
Currents and tides		
What is in the way?		
Resources at risk		
Time until resource contact		
What's happening to it?		
Weathering processes		
Response actions underway		

APPENDIX D – COORDINATION STRUCTURE FOR A CONCURRENT HYDROCARBON SPILL IN BOTH COMMONWEALTH AND STATE WATERS/ SHORELINES[3]



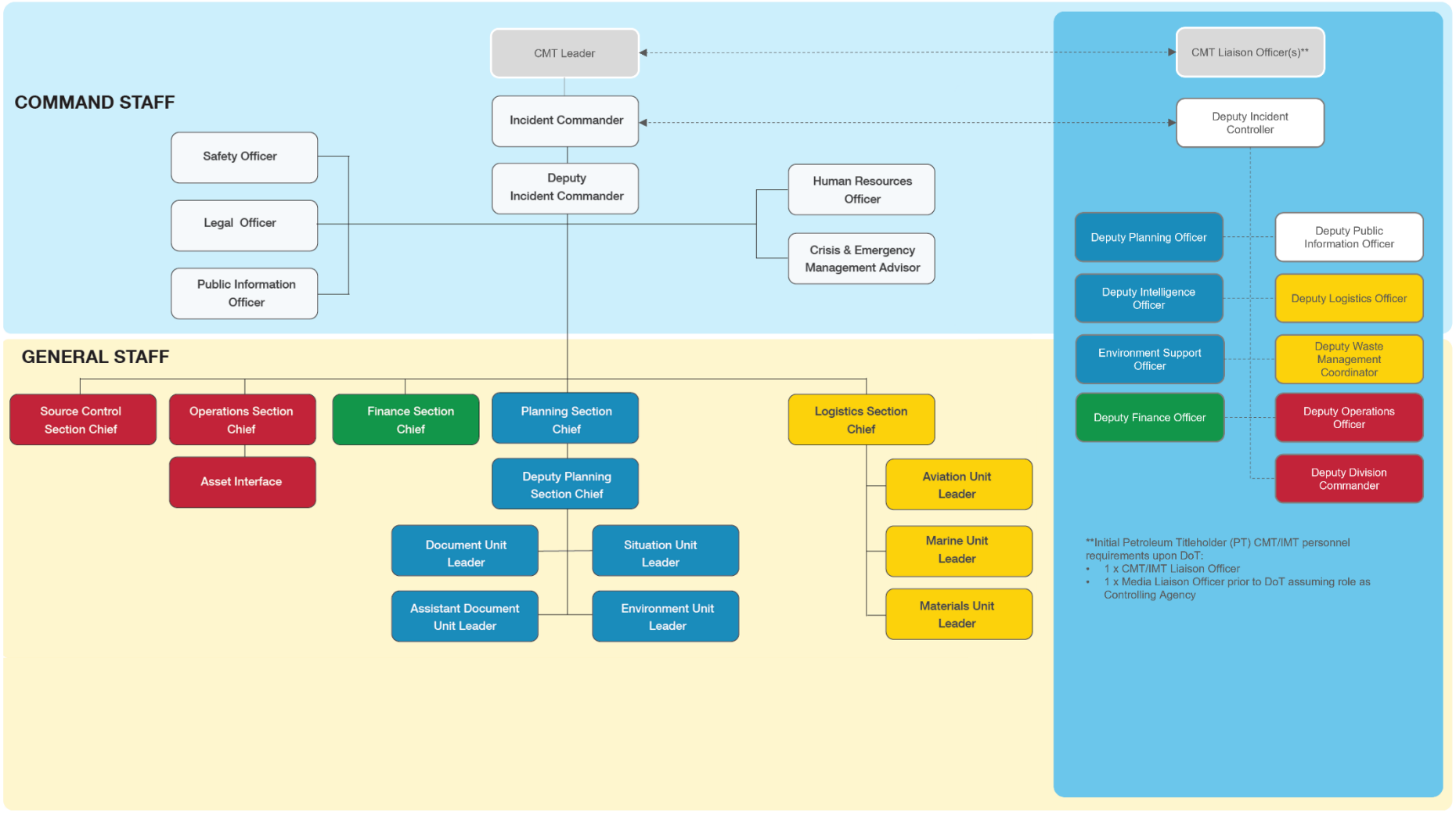
The Control Agency for a hydrocarbon spill in Commonwealth waters resulting from an offshore petroleum activity is Woodside (the Petroleum Titleholder).

The Control Agency/ Hazard Management Agency (HMA) for a hydrocarbon spill in State waters/shorelines resulting from an offshore petroleum activity is DTMI. DTMI will appoint an Incident Controller and form a separate IMT to only manage the spill within State waters/shorelines.

[3] Adapted from DTMI Offshore Petroleum Industry Guidance Note, Marine Oil Pollution: Response and Consultation Arrangements July 2020. Note: For full structure up to Commonwealth Cabinet/Minister refer to Marine Oil Pollution: Response and Consultation Arrangements Section 6.5, Figure 4.

APPENDIX E – WOODSIDE INCIDENT MANAGEMENT STRUCTURE

Woodside Incident Management Structure for Hydrocarbon Spill (including Woodside Liaison Officers Command Structure within DTMI IMT if required) is shown below. Woodside's CIMT would operate from the Emergency Operations Centre (EOC) at the Woodside headquarters in Perth.



APPENDIX F – WOODSIDE LIAISON OFFICER RESOURCES TO DTMI

In the event that DTMI is required to establish an IMT, Woodside will make available an appropriate number of appropriately qualified persons to work within the DTMI IMT.

It is an expectation that Woodside's nominated CMT Liaison Officer and the Deputy Incident Controller attend the DTMI Fremantle Incident Control Centre (ICC) as soon as possible after the formal request has been made by the State Marine Pollution Coordinator (SMPC), and that the remaining initial cohort will attend no later than 8 am on the day following the request being formally made to Woodside by the SMPC. For Woodside personnel designated to serve in DTMI's Forward Operating Base (FOB), it is expected that they arrive at the FOB no later than 24 hours from the formal request being made by the SMPC.

Area	Role	Woodside personnel[4]	Key Duties	#
DTMI Maritime Environmental Emergency Coordination Centre (MEECC)	CMT Liaison Officer	CIMT Liaison	• Provide a direct liaison between the CMT and the MEECC. • Facilitate effective communications and coordination between the CIMT Leader and SMPC. • Offer advice to SMPC on matters pertaining to PT crisis management policies and procedures.	1
DTMI IMT Incident Control	Deputy Incident Controller	Deputy Incident Commander (Deputy IC)	• Provide a direct liaison between the PT IMT and DTMI IMT. • Facilitate effective communications and coordination between the PT IC and the DTMI IC. • Offer advice to the DTMI IC on matters pertaining to PT incident response policies and procedures. • Offer advice to the Safety Coordinator on matters pertaining to PT safety policies and procedures, particularly as they relate to PT employees or contractors operating under the control of the DTMI IMT.	1
DTMI IMT Intelligence	Deputy Intelligence Officer	Situation Unit Leader (Intelligence)	• As part of the Intelligence Team, assist the Intelligence Officer in the performance of their duties in relation to situation and awareness. • Facilitate the provision of relevant modelling and predications from the PT IMT. • Assist in the interpretation of modelling and predictions originating from the PT IMT. • Facilitate the provision of relevant situation and awareness information originating from the DTMI IMT to the PT IMT. • Facilitate the provision of relevant mapping from the PT IMT. • Assist in the interpretation of mapping originating from the PT IMT. • Facilitate the provision of relevant mapping originating from the DTMI IMT to the PT IMT.	1
DTMI IMT Intelligence – Environment	Environment Support Officer	Deputy Environment Unit Leader	• As part of the Intelligence Team, assist the Environment Coordinator in the performance of their duties in relation to the provision of environmental support into the planning process. • Assist in the interpretation of the PT OPEP and relevant TRP plans.	1

[4] *These positions would be mobilised, in consultation with DTMI, to align to the actual spill scenario. The selected roles and/or individual personnel would be subject to continued evaluation to ensure continued 'best fit'. For CIMT roster arrangements, contact the WCC. During a prolonged response, additional personnel may be sourced through internal resourcing and mutual Aid agreements such as the AMOSC Core Group via* [10]

Area	Role	Woodside personnel[4]	Key Duties	#
			• Facilitate in requesting, obtaining and interpreting environmental monitoring data originating from the PT IMT. • Facilitate the provision of relevant environmental information and advice originating from the DTMI IMT to the PT IMT.	
DTMI IMT Planning-Plans/ Resources	Deputy Planning Officer	Deputy Planning Section Chief	• As part of the Planning Team, assist the Planning Officer in the performance of their duties in relation to the interpretation of existing response plans and the development of incident action plans and related sub plans. • Facilitate the provision of relevant IAP and sub plans from the PT IMT. • Assist in the interpretation of the PT OPEP from the PT. • Assist in the interpretation of the PT IAP and sub plans from the PT IMT. • Facilitate the provision of relevant IAP and sub plans originating from the DTMI IMT to the PT IMT. • Assist in the interpretation of the PT existing resource plans. • Facilitate the provision of relevant components of the resource sub plan originating from the DTMI IMT to the PT IMT. **(Note this individual must have intimate knowledge of the relevant PT OPEP and planning processes)**	1
DTMI IMT Public Information-Media/ Community Engagement	Deputy Public Information Officer	Deputy Public Information Officer	• As part of the Public Information Team, provide a direct liaison between the PT Media team and DTMI IMT Media team. • Facilitate effective communications and coordination between the PT and DTMI media teams. • Assist in the release of joint media statements and conduct of joint media briefings. • Assist in the release of joint information and warnings through the DTMI Information and Warnings team. • Offer advice to the DTMI Media Coordinator on matters pertaining to PT media policies and procedures. • Facilitate effective communications and coordination between the PT and DTMI Community Liaison teams. • Assist in the conduct of joint community briefings and events. • Offer advice to the DTMI Community Liaison Coordinator on matters pertaining to the PT community liaison policies and procedures. • Facilitate the effective transfer of relevant information obtained from through the Contact Centre to the PT IMT.	1
DTMI IMT Logistics	Deputy Logistic Officer	Deputy Logistics Section Chief	• As part of the Logistics Team, assist the Logistics Officer in the performance of their duties in relation to the provision of supplies to sustain the response effort. • Facilitate the acquisition of appropriate supplies through the PTs existing OSRL, AMOSC and private contract arrangements. • Collects Request Forms from DTMI to action via PT IMT. **(Note this individual must have intimate knowledge of the relevant PT logistics processes and contracts)**	1

Area	Role	Woodside personnel[4]	Key Duties	#
DTMI IMT Finance-Accounts/ Financial Monitoring	Deputy Finance Officer	Deputy Finance Section Chief	• As part of the Finance Team, assist the Finance Officer in the performance of their duties in relation to the setting up and payment of accounts for those services acquired through the PTs existing OSRL, AMOSC and private contract arrangements. • Facilitate the communication of financial monitoring information to the PT to allow them to track the overall cost of the response. • Assist the Finance Officer in the tracking of financial commitments through the response, including the supply contracts commissioned directly by DTMI and to be charged back to the PT.	1
DTMI IMT Operations	Deputy Operations Officer	Deputy Operations Section Chief	• As part of the Operations Team, assist the Operations Officer in the performance of their duties in relation to the implementation and management of operational activities undertaken to resolve an incident. • Facilitate effective communications and coordination between the PT Operations Section and the DTMI Operations Section. • Offer advice to the DTMI Operations Officer on matters pertaining to PT incident response procedures and requirements. • Identify efficiencies and assist to resolve potential conflicts around resource allocation and simultaneous operations of PT and DTMI response efforts.	1
DTMI IMT Operations – Waste Management	Deputy Waste Management Coordinator	Deputy Waste Coordinator (Materials)	• As part of the Operations Team, assist the Waste Management Coordinator in the performance of their duties in relation to the provision of the management and disposal of waste collected in State waters. • Facilitate the disposal of waste through the PT's existing private contract arrangements related to waste management and in line with legislative and regulatory requirements. • Collects Request Forms from DTMI to action via PT IMT.	1
DTMI FOB Operations Command	Deputy Division Commander	FOB Deputy Incident Commander	• As part of the Field Operations Team, assist the Division Commander in the performance of their duties in relation to the oversight and coordination of field operational activities undertaken in line with the IMT Operations Section's direction. • Provide a direct liaison between the PT FOB and DTMI FOB. • Facilitate effective communications and coordination between the PT Division Commander and the DTMI Division Commander. • Offer advice to the DTMI Division Commander on matters pertaining to PT incident response policies and procedures. • Assist the Safety Coordinator deployed in the FOB in the performance of their duties, particularly as they relate to PT employees or contractors. • Offer advice to the Safety Coordinator deployed in the FOB on matters pertaining to PT safety policies and procedures.	1
			Total	11

APPENDIX G – DTMI LIAISON OFFICER RESOURCES TO WOODSIDE

Once DTMI activates a State waters/shorelines IMT, DTMI will make available the following roles to Woodside.

Area	DTMI Liaison Role	Personnel Sourced from:	Key Duties	#
Woodside CIMT	DTMI Liaison Officer (prior to DTMI assuming Controlling Agency)/ Deputy Incident Controller – State waters (after DTMI assumes Controlling Agency)	DTMI	• Facilitate effective communications between DTMI's SMPC/ Incident Controller and the Petroleum Titleholder's appointed CMT Leader / Incident Controller. • Provide enhanced situational awareness to DTMI of the incident and the potential impact on State waters. • Assist in the provision of support from DTMI to the Petroleum Titleholder. • Facilitate the provision technical advice from DTMI to the Petroleum Titleholder Incident Controller as required.	1
Woodside CIMT Public Information – Media	DTMI Media Liaison Officer	DTMI	• Provide a direct liaison between the PT Media team and DTMI IMT Media team. • Facilitate effective communications and coordination between the PT and DTMI media teams. • Assist in the release of joint media statements and conduct of joint media briefings. • Assist in the release of joint information and warnings through the DTMI Information & Warnings team. • Offer advice to the PT Media Coordinator on matters pertaining to DTMI and wider Government media policies and procedures.	1
			Total DTMI Personnel Initial Requirement to Woodside	2

APPENDIX I NATIONAL OFFSHORE PETROLEUM SAFETY AND ENVIRONMENTAL MANAGEMENT AUTHORITY REPORT FORM

NOPSEMA
Australia's offshore energy regulator

FORM

Recordable Environmental Incident Monthly Report

Document No: N-03300-FM0928 A198750

Date: 10/01/2024

Due Date: By the 15th day of the following month.

Send completed form to: submissions@nopsema.gov.au via secure file transfer at https://securefile.nopsema.gov.au/filedrop/submissions

Reference: Regulation 50

Please check the following boxes if applicable to this report **Nil Incident Report:** ☐ **Final report for this activity:** ☐

Titleholder name:		**Titleholder business address:**		**Title of environment plan for the activity:**	
Activity type: (e.g. drilling, seismic, production)		**Month, Year:**		**Facility name and type :** (e.g. MODU, Seismic Vessel, FPSO)	
Contact person:		**Email:**		**Phone:**	
Incident date	**All material facts and circumstances** (including release volumes to environment if applicable)	**Performance outcome(s) and/or standard(s) breached**	**Action taken to avoid or mitigate any adverse environmental impacts of the incident**	**Corrective action taken, or proposed, to stop, control or remedy this incident**	**Action taken, or proposed, to prevent a similar incident occurring in future**

Note 1: As at 28 February 2014, amendments to the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations changed from environmental performance objective to environmental performance outcome. If you are reporting against an EP accepted under the old Regulations please report against the environmental performance objective for that activity.

Note 2: This form may be submitted in conjunction with the 'Injuries and Fatalities – Monthly Summary Report' Form available at www.nopsema.gov.au

Privacy Notice

NOPSEMA collects your contact details for the purpose of administering the OPGGSA and associated regulations. NOPSEMA will not use or disclose your personal information for any other purpose without your consent, unless it is required or authorised by law, or relates to NOPSEMA's enforcement activities. Your personal information may be disclosed to the following organisations, entities or individuals:

- individuals who make a request under the *Freedom of Information Act 1982*
- the Australian National Audit Office and other privately appointed auditors
- NOPSEMA's legal advisors.

NOPSEMA may occasionally be required to disclose information to overseas recipients in order to discharge its functions or exercise its powers, or to perform its necessary business activities. Information about how you can access, or seek correction to, your personal information is contained in NOPSEMA's APP Privacy Policy at www.nopsema.gov.au/privacy. If you have an enquiry or a complaint about your privacy, please contact NOPSEMA's Privacy Contact Officer on 08 6188 8700 or by email at privacy@nopsema.gov.au.

NOPSEMA
Australia's offshore energy regulator

FORM

Report of an accident, dangerous occurrence or environmental incident

Document No: N-03300-FM0831 A159980

Date: 07/09/2023

For instructions and general guidance in the use of this form, please see the last page.

Part 1 is required within 3 days of a notified incident.
Part 2 is required within 30 days of notified incident.

What was the date and time of the initial verbal incident notification to NOPSEMA?			
Date		**Time**	

NOTE: It is a requirement to request permission to interfere with the site of an accident or dangerous occurrence. Refer OPGGS(S)R, Reg. 2.49.

What is the date and time of this written incident report?			
Date		**Time**	

What type of incident is being reported?	*Please tick appropriate incident type*	
Accident or dangerous occurrence		Complete parts 1A, 1B & part 2
Environmental Incident		Complete parts 1A, 1C
BOTH (Accident or dangerous occurrence AND environmental incident)		Complete ALL parts (1A, 1B, 1C, 2)

Please tick all applicable (one or more categories) *To use electronically: MS Word 2007-10 – click in check box*

Categories *Please select one or more*	Accidents	Death or Serious injury Lost time injury ≥3 days	☐ ☐
	Dangerous occurrences	Hydrocarbon release >1 kg or ≥80 L (gas or liquid) Fire or explosion Collision marine vessel and facility Could have caused death, serious injury or LTI Damage to safety-critical equipment Unplanned event – implement ERP Pipeline incident Well kick >50 barrels Other _____	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
	Environmental incidents	Hydrocarbon release Chemical release Drilling fluid/mud release Fauna Incident Other _____	☐ ☐ ☐ ☐ ☐

Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident

General information – all incidents

1.	**Where did the incident occur?**	Facility / field / title name		
		Site name and location *Latitude/longitude*		
2.	**Who is the registered operator/titleholder or other person that controls the works site or activity?**	Name		
		Business address		
		Business phone no.		
3.	**When did the incident occur?**	Time and time zone		
		Date		
4.	**Did anyone witness the incident?**	Yes or No *If yes, provide details below*		
	Witness details	Witness no. 1	Witness no. 2	Witness no. 3
	Full name			
	Phone no. (Business hours)			
	Phone no. (Home) (Mobile)			
	Email (Business) (Private)			
	Postal address			
	NB: If more witnesses, copy and insert this section (4) here, and add extra witness numbers appropriately			
5.	**Details of person submitting this information**	Name		
		Position		
		Email		
		Telephone no.		
6.	**Brief description of incident**			
7.	**Work or activity being undertaken at time of incident**			

Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident

General information – all incidents

8.	**What are the internal investigation arrangements?**					
9.	**Was there any loss of containment of any fluid (liquid or gas)?**	Yes or No *If Yes, provide details below*				
		Type of fluid (liquid or gas) *If hydrocarbon release, please complete item no.15 as well*	Hydrocarbon ☐ *Please specify*_____ Non-hydrocarbon ☐ *Please specify*_____			
		Estimated quantity *Liquid (L), Gas (kg)*				
		Estimation details	Calculation	☐	Measurement	☐
			*Please specify*_____			
		Composition *Percentage and description*				
		Known toxicity to people and/or environment	Toxicity to people			
			Toxicity to environment			
		How was the leak/spill detected?	F&G detection ☐ CCTV ☐		Visual ☐ Other ☐	
		Did ignition occur?	No ☐ Yes ☐		Immediate ☐ Delayed ☐	
			If yes, what was the likely ignition source		Hotwork ☐ Spark electrical source ☐ Spark metallic contact ☐ Hot surface ☐ Other ☐	
10.	**Has the release been stopped and/or contained?**	Yes or No				
		Duration of the release *hh:mm:ss*				
		Estimated rate of release *Litres or kg per hour*				
11.	**Location of release**	What or where is the location of the release?				
		What equipment was involved in the release?				
		Is this functional location listed as safety-critical equipment?				

Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident

General information – all incidents

12.	**Weather conditions** *Please complete as appropriate*	Ambient temperature C°				
		Relative humidity %				
		Wind speed m/s *NB: for enclosed areas use* Air change per hour				
		Wind direction e.g. from SW				
		Significant wave height m				
		Swell m				
		Current speed m/s				
		Current direction e.g. from SW				
13.	**Hydrocarbon release details** *If hydrocarbon fluid (liquid or gas) was released, please complete this section as well*	System of hydrocarbon release	Process ☐ Drilling ☐ Subsea / Pipeline ☐		Utilities ☐ Well related ☐ Marine ☐	
		Estimated inventory in the isolatable system *Litres or kg*				
		System pressure and size of piping or vessel *diameter (d in mm)* *length (l in m)* *or volume (V in L)*	Pressure MPag			
			Size Piping (d) and Piping (l) or Vessel (V)			
		Estimated equivalent hole diameter *d in mm*				

Part 1B - Complete for accidents or dangerous occurrences

Accidents and dangerous occurrences information

	Was NOPSEMA notified through the dedicated notification phone line? *Phone No.* 1300 674 472		Yes	☐	No	☐
15.	**Action taken to make the work-site safe**	Was permission given by a NOPSEMA inspector to interfere with the site? OPGGS(S)R 2.49.	Yes	☐	No	☐
		Action taken				
		Details of any disturbance of the work site				

Part 1B - Complete for accidents or dangerous occurrences

Accidents and dangerous occurrences information

16.	**Was an emergency response initiated?**		Yes	☐	No	☐
		Type of response	Manual Automatic alarm	☐ ☐	Muster Evacuation	☐ ☐
		How effective was the emergency response?				

17.	**Was anyone killed or injured?** *Provide details below*		Yes	☐	No	☐		
	Injured persons (IP)	**Casualty no. 1**						
	If different from item 2. Employer name		Employer address					
	Employer phone no.		Employer email					
	IP full name							
	IP date of birth		Sex	M	☐	F	☐	
	IP residential address							
	IP phone no. (Work)		IP phone no. (Home) (Mobile)					
	IP occupation/job title		Contractor or core crew					
	Details of injury							
	Based on TOOCS (refer last page) Nature of injury	a. Intracranial injury b. Fractures c. Wounds, lacerations, amputations, internal organ damage	☐ ☐ ☐	d. Burn e. Nerve or spinal cord injury f. Joint, ligament, muscle or tendon injury g. Other _____	☐ ☐ ☐ ☐			
	Part of body	G1. Head or face G2. Neck G3. Trunk G4. Shoulder or arm	☐ ☐ ☐ ☐	G5. Hip or leg G6. Multiple locations G7. Internal systems G8. Other _____	☐ ☐ ☐ ☐			
	Mechanism of injury	G0. Falls, stepping, kneeling, sitting on object G1. Hitting object G2. Being hit or trapped	☐ ☐ ☐	G3. Exposure to sound or pressure G4. Muscular stress G5. Heat, cold or radiation G6/7 Chemical, biological substance G8. Other _____	☐ ☐ ☐ ☐ ☐			
	Agency of injury	1. Machinery or fixed plant 2. Mobile plant or transport 3. Powered equipment 4. Non-power equipment	☐ ☐ ☐ ☐	5/6. Chemicals, materials, substances 7. Environmental agencies 8. Human or animal agencies 9. Other _____	☐ ☐ ☐ ☐			

Part 1B - Complete for accidents or dangerous occurrences

Accidents and dangerous occurrences information

	Details of job being undertaken					
	Day and hour of shift	Day *e.g. 5th day of 7 (5 / 7)*		Hour *e.g. 3rd hour of 12 (3 / 12)*		
	NB: If more casualties, please copy/paste this section (19) for each additional casualty and insert here					
18.	**Was there any serious damage?** *Provide details below*			Yes	☐	No ☐
	Details	**Item 1**		**Item 2**		**Item 3**
	Equipment damaged					
	Extent of damage					
19.	**Will the equipment be shut down?** *Yes or No*					
	If yes, for how long?					
	NB: If more equipment seriously damaged, please copy/paste this section as required					
20.	**Will the facility be shut down?**	Yes or No *If yes provide details below*				
	Facility shutdown	Date				dd/mm/yyyy
		Time				24-hour clock
		Duration				days / hours / minutes
21.	**Immediate action taken/intended, if any, to prevent recurrence of incident.**	**Action**		**Responsible party**		**Completion date** *Actual or intended*
22.	**What were the immediate causes of the incident?**					

Attachments

Are you attaching any documents?			Yes or No *If yes, provide details below*	
No.	**ID**	**Revision**	**Date**	**Title/description**

Insert or delete rows as required

Part 1C – Complete for environmental incidents

Environmental Impacts

23.	**What is the current environment plan for this incident?**	Environment plan		
24.	**Has the incident resulted in an impact to the environment?**	Yes or No *If yes, provide details below*		
		Incident details *e.g. estimated area of impact, nature/significance of impact*		
		ENVIRONMENTAL RECEPTORS		
		Open ocean ☐ Shoreline ☐ Population centre ☐ Stakeholders ☐ Other sensitivity ☐ *e.g. conservation area, nesting beach*	Macroalgae ☐ Coral Reef ☐ Benthic invertebrates ☐ Seagrass ☐ Mangrove ☐	
		Further details		

	Details	**Environment 1**	**Environment 2**	**Environment 3**
	Location of receiving environments *Lat/Long*			
	Date & time of impact			
	Action taken to minimise exposure			
	Specify each matter protected under Part 3 of the EPBC Act impacted			

NB: If more environments were damaged, please copy/paste this section (Item E3) and add extra data

25.		Yes or No *If yes, provide details*	

Part 1C – Complete for environmental incidents

Environmental Impacts

	Are any environments at risk? ***Including as a result of spill response measures***	Details *e.g. zone of potential impact*				
		AT RISK ENVIRONMENTS				
		Open ocean	☐	Macroalgae	☐	
		Shoreline	☐	Coral Reef	☐	
		Population Centre	☐	Benthic Invertebrates	☐	
		Stakeholders	☐	Seagrass	☐	
		Other sensitivity *e.g. conservation area, nesting beach*	☐	Mangrove	☐	

	Details	**Environment 1**	**Environment 2**	**Environment 3**
	Estimated location of 'at-risk' environments			
	Estimated impact date & time			
	Action required to minimise exposure			
	Specify each matter protected under Part 3 of the EPBC Act at risk			

NB: If more environments at risk of damage, please copy/paste this section (Item E2) and add extra data

26.	**Was an oil pollution emergency plan activated?**	Yes or No	
		If yes, what action has been implemented /planned?	
		If yes, how effective is/was the spill response?	
27.	**Was an environmental monitoring program initiated?**	Yes or No	
		If yes, what actions have been implemented and/or planned?	

28.	**Did the incident result in the death or injury of any fauna?**	Yes or No (If yes provide details of species in the table below)		
	Injured fauna	**Species 1**	**Species 2**	**Species 3**
	Species name (common or scientific name)			
	Number of individuals killed or injured	Killed: Injured:	Killed: Injured:	Killed: Injured:

NB: If more species were injured or killed, please copy/paste this section (Item E4) and add extra data

29.	**Actions taken to avoid or mitigate any adverse**	**Action**	**Responsible party**	**Completion date** *Actual or intended*

Part 1C – Complete for environmental incidents

Environmental Impacts

	environmental impacts of the incident.			
	NB: If more actions, please add extra rows as required			
30.	**Corrective actions taken, or proposed, to stop, control or remedy the incident.**	**Action**	**Responsible party**	**Completion date** *Actual or intended*
	NB: If more actions, please add extra rows as required			
31.	**Actions taken, or proposed, to prevent a similar incident occurring in the future.**	**Action**	**Responsible party**	**Completion date** *Actual or intended*
	NB: If more actions, please add extra rows as required			

Attachments

Are you attaching any documents?			Yes or No *If yes, provide details below*	
No.	**ID**	**Revision**	**Date**	**Title/Description**
Insert or delete rows as required				

Part 2 – Information required within 30 days of accident or dangerous occurrence

NOPSEMA acknowledges that in many circumstances an operator may not have completed an investigation within 3 days of an accident or first detection of a dangerous occurrence and agrees that these items must be provided within 30 days unless otherwise agreed, in writing with NOPSEMA. In circumstances where an investigation has been completed within 3 days, and these items are available (supplemented, as required by any attachments) this part should also be completed at that time.

32.	**Has the investigation been completed?**	Yes or No	
	Root cause analysis *What were the root causes?*	Root cause 1	
		Root cause 2	
		Root cause 3	
		Other root causes	
	Full report *Describe investigation in detail, including who conducted the investigation and in accordance with what standard/procedure with reference to attachments listed in the 'attachments table' (following) as applicable*		

33.	**Actions to prevent recurrence of same or similar incident**	**Action**	**Responsible party**	**Completion date** *Actual or intended*
	NB: Add or delete rows as appropriate			

Attachments (Insert/delete rows as required)

Are you attaching any documents?			Yes or No *If yes, provide details below*	
No.	**ID**	**Revision**	**Date**	**Title/description**

Instructions and general guidance for use:

1. The use of this form is voluntary and is provided to assist operators and titleholders to comply with their obligations to give notice and provide reports of incidents to NOPSEMA under the applicable legislation.
2. Accidents, dangerous occurrences or environmental incidents can all be reported using this same form.
3. The applicable legislation for incident reporting is:
    a. Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009 [OPGGS(S)R]; and
    b. Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 [OPGGS(E)R], for facilities located in Commonwealth waters; or
    c. for facilities located in designated coastal waters, the relevant State or Territory Act and associated Regulations where there is a current conferral of powers to NOPSEMA.
4. In the context of this form an incident is a reportable incident as defined under:
    a. OPGGSA, Schedule 3, Clause 82.
    b. OPGGS(E)R, regulation 4.
5. This form should be used in conjunction with NOPSEMA Guidance Notes available on the NOPSEMA website:
    a. N-03300-GN0099 Notification and Reporting of Accidents and Dangerous Occurrences
    b. N-03300-GN0926 Notification and Reporting of Environmental Incidents
6. Part 1 requires completion for all incidents; then ALSO complete part 2 if the incident is an accident or dangerous occurrence.
7. NOPSEMA considers that a full report will contain copies of documentary material referenced and/or relied on in the course of completing this form, which may include (but not be limited to) as appropriate: witness statements, management system documents, drawings, diagrams and photographs, third party reports (audit, inspection, material analysis etc.), internal records and correspondence.
8. This form is intended to be completed electronically using Microsoft Word by completing the unshaded cells which will expand as required to accept the information required and the check boxes where relevant (NB: check boxes may appear shaded and have reduced functionality in MS Word versions prior to 2010).
9. The completed version of this form (and any attachments, where applicable) should be emailed to:

    submissions@nopsema.gov.au

    or submitted via secure file transfer at: https://securefile.nopsema.gov.au/filedrop/submissions as soon as practicable, but in any case, within three days of the incident.

References

NOPSEMA website: www.nopsema.gov.au

TOOCS – Type of Occurrence Classification System.
The *Type of Occurrence Classification System, Version 3.0* (TOOCS3.0) was developed to improve the quality and consistency of data. This system aligns with the International Classification of Diseases – Australian Modification (ICD10-AM). Type of occurrence classification system (TOOCS) 3rd Edition May 2008 | Safe Work Australia

OPGGS(S)R. Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009. Select Legislative Instrument 2009 No. 382 as amended and made under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006.*Commonwealth of Australia.
OPGGS(E)R. Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009. Statutory Rules 1999 No. 228 as amended and made under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006.* Commonwealth of Australia.

Privacy Notice

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- individuals who make a request under the *Freedom of Information Act 1982*
- the Australian National Audit Office and other privately appointed auditors
- other law enforcement bodies (for example, the police or the coroner)
- NOPSEMA's legal advisors.

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