Montara 1,2,3 Wellhead Removal Oil Pollution Emergency Plan

TM-50-PLN-I-00009

Rev 0

Facility:	**TM - Montara Field**
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Safety Critical:	**Yes**

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		Electronic	Hardcopy
Jadestone			
	Perth Office – Country Manager	Y	Y
	Montara Venture	Y	Y
Other			
	Australian Maritime Safety Authority	Y	
	WA Department of Transport	Y	
	NT Environment Protection Agency	Y	
	AMOSC	Y	
	OSRL	Y	

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FIGURES

FIRST STRIKE RESPONSE PLAN

The information below is designed to guide the Incident Management Team (IMT) during the first 24–48 hours of a spill, or until all actions in Table A-1 and Table A-2 are complete, and the initial Incident Action Plan (IAP) is finalised and ready for implementation.

The Montara Incident Response Plan includes checklists for key roles in the Incident Response Team (IRT), focusing on initial response actions for the period immediately following the incident. Only key actions from the Montara Incident Response Plan (MV-70-PLN-F-00001) are repeated in Table A-1, so that IMT members are aware of the actions that may have already been undertaken by the IRT.

The level of activation of the IRT, IMT and Group Crisis Team will be related to the classification level of the oil spill (Table 2-1).

Table A-1: Vessel Master and Incident Response Team Initial Actions (Vessels Spills Only)

Responsibility	Action
Vessel Master	Take immediate actions to control the source of the spill (Refer to vessel-specific Shipboard Oil Pollution Emergency Plan [SOPEP])
	Monitor the safety of all personnel
	If source control is not viable, ensure vessel safety by clearing the immediate vicinity of the spill, if possible.
	Contact Jadestone's Offshore Installation Manager (or delegate) and inform them of the incident
	Conduct risk assessment and assess safe approach routes
	Deploy tracking buoy if one is available on the vessel
	Contact the Australian Marine Safety Authority (AMSA), as soon as practicable, to inform them of the incident, providing as much information as possible via Pollution Report (POLREP), including: • Location and coordinates • Date and time the release occurred or was first reported • How it was detected • Names of any witnesses • Cause of the spill • Source of spill (e.g. fuel tank) • Approximate volume of spill (better to overestimate) • If the spill is controlled or continuous • Weather, tide and current details • Trajectory of the spill (what direction is the slick spreading) • If any fauna has been observed nearby (e.g. whales, dolphins, seabirds)
	Take photos and send to the OIM (or delegate) and AMSA, if possible
	Continue to provide updated situation reports to the OIM (or delegate) and AMSA, as required
OIM (On-Scene Commander) or delegate	Confirm incident report and capture key details relating to the incident. Obtain POLREP
	Classify the level of the spill (Table 2-1)

Responsibility	Action
	Notify IMT Leader (Perth) of the incident and maintain open lines of communication to determine if IMT support is required.
	Consult with IMT Leader to agree on initial incident level (Table 2-1)
	Deploy tracking buoy to leading edge of the spill if vessel was unable to do so

Table A-2: Incident Management Team Initial Actions (0–48 hours)

Responsibility	Action	Completed
IMT Leader	Confirm incident report and capture key details relating to the incident (obtain POLREP)	☐
	Ensure all external notifications are completed in the specified timeframes (Refer to Table 8-1) **Note: Some notifications must be made within 2 hours of incident being identified**	☐
	Notify and activate IMT, if required. This shall occur via direct telephone call from IMT Leader to individual positions. The IMT Leader will specify the location and the time at which the team is to convene. The IMT Leader will decide whether a full or partial mobilisation is required depending on the initial assessment of the level of the incident (Table 2-1) and the level of support required by the On-Scene Commander (OSC) during the initial period of the incident.	☐
	Confirm level of the incident in consultation with OSC (Table 2-1)	☐
	Set up IMT room	☐
	If the initiation criteria for Monitor and Evaluate listed in Section 10.1 are met, commence implementation of the Monitor and Evaluate Strategy as per the actions listed in Table 10-1	☐
	Ensure Planning Section Chief conducts all required external notifications and reporting (Refer to Table 8-1 for reporting requirements) within specified timeframes (Note: some notifications are required within 2 hours of spill being identified)	☐
	Notify Country Manager, then subsequently notify the Chief Executive Officer (CEO) (if unable to reach Country Manager after two attempts (leave voicemail to call back IMT Lead urgently), continue to call Chief Executive Officer, continue to reach Country Manager), as link into Group Crisis Team as appropriate	☐
Planning Lead	Notify and activate oil spill response support organisations as listed in Table 7-1	☐
	Gather available situational awareness data from monitor and evaluate tactics to help inform IMT and preparation of initial IAP	☐
	Prepare initial IAP (Section 6)	☐
Environment Unit Leader	Liaise with Planning Lead to obtain available situational awareness data from initial monitor and evaluate tactics to help inform the initial Operational Spill Impact Mitigation Assessment (SIMA)	☐
	Commence preparation of initial Operational SIMA (Refer to Section 9)	☐

Responsibility	Action	Completed
	Conduct activations as per Table 7-1 and Section 12 of the Jadestone Montara Operational and Scientific Monitoring Bridging Implementation Plan (OSM-BIP) (TM-70-PLN-I-00007)	☐
Operations Section Chief	Initiate Source Control Strategy in consultation with OSC (Section 11)	☐
	Commence process to establish Forward Operations Base, if required	☐
The following actions depend upon the outcomes of the Operational SIMA. If the response strategies listed below are selected, then refer to the implementation guidance tables referenced below for more detail.		
IMT Leader (or delegate)	Initiate Oiled Wildlife Response Strategy according to the actions listed in Table 13-1	☐

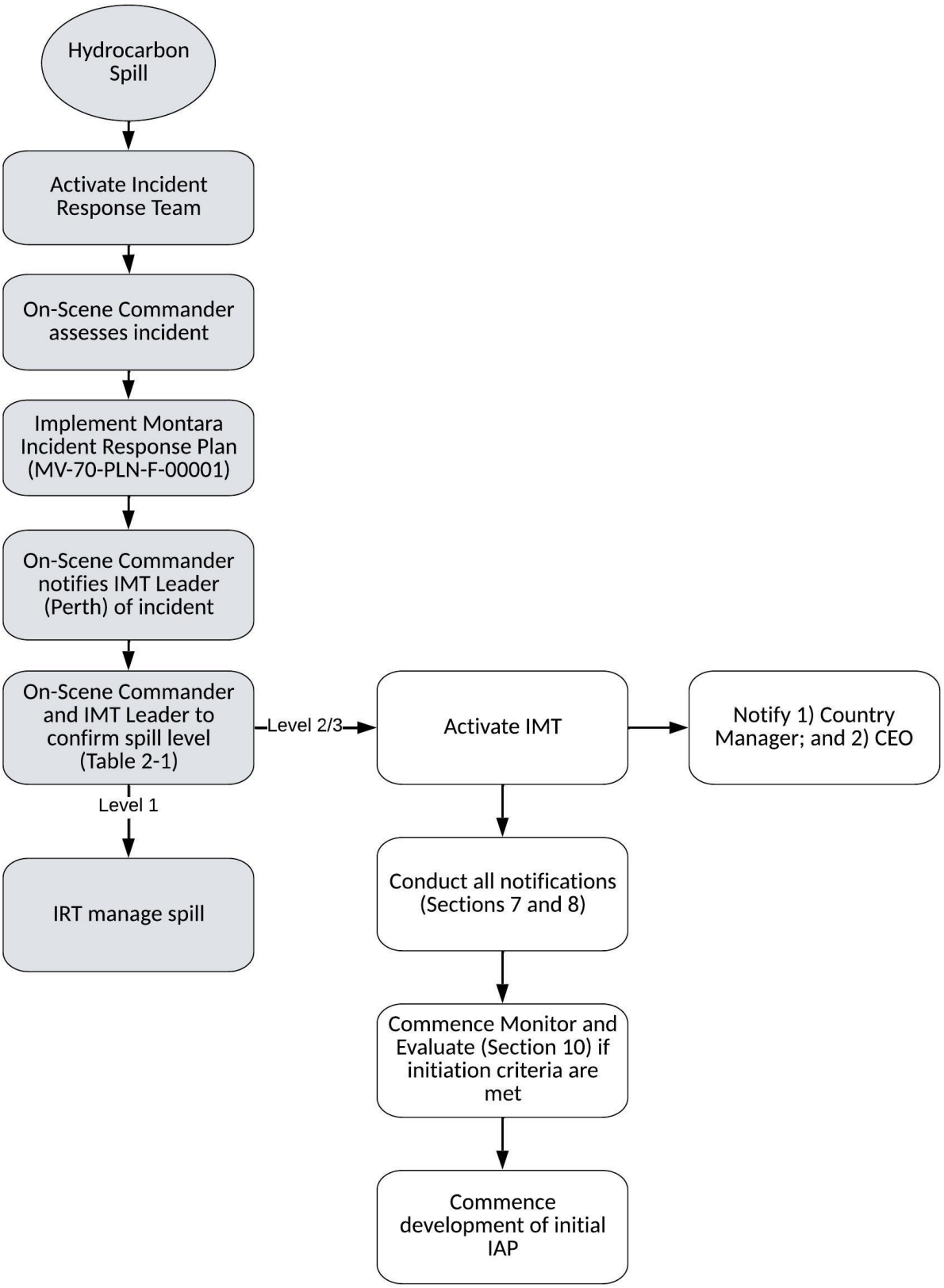

Figure A-1: First Strike Response Guidance

QUICK REFERENCE INFORMATION

In the event of an incident where human safety is at significant risk, tasks included in this OPEP may not be implemented, and the International Convention for the Safety of Life at Sea (SOLAS) 1974 may take precedence.

Parameter	Information		Further Information (section of the EP)
Activity	Montara 1,2,3 Wellhead Removal		Section 1 and Section 2 of EP
Location (Lat/Long and Easting Northing)	Montara 1: Latitude: 12° 41’ 21.66” S; Longitude: 124° 31’ 53.98” E Montara 2: Latitude: 12° 41’ 57.86” S; Longitude: 124° 31’ 31.85” E Montara 3: Latitude: 12° 40’ 40.154” S; Longitude: 124° 32’ 33.461” E		
Title/s (Block/s)	Production Licence areas AC/L7		N/A
Water Depth	~ 72 to 87 m		Section 2.2 of EP
Hydrocarbon Type/s and International Tanker Owners Pollution Federation (ITOPF) Classification	Marine Gas Oil (MGO) / Marine Diesel Oil (MDO): Group 2 (light persistent)		Section 4.2.2
Hydrocarbon	**Scenario**	**Worst case spill volume (m^3) (duration)**	Section 4.2.1
MGO/MDO	Vessel collision / fuel tank rupture	400 (6 hours)	
Weathering Potential	**MGO** is a mixture of volatile and persistent hydrocarbons with low viscosity. It will spread quickly and thin out to low thickness levels, thereby increasing the rate of evaporation. Up to 6% will evaporate within the first 12 hours and 34.6% will generally evaporate over the first 24 hours. Approximately 5% is considered to be persistent, which is unlikely to evaporate but will decay over time. **MDO** is a mixture of volatile and persistent hydrocarbons with low viscosity. It will spread quickly and thin out to low thickness levels, thereby increasing the rate of evaporation. Up to 60% will generally evaporate over the first two days. Approximately 10% is considered to be persistent, which is unlikely to evaporate but will decay over time. MGO and MDO both have a strong tendency to entrain into the upper water column (0–10 m) (and consequently reduce evaporative loss) in the presence of moderate winds (>10 knots) and breaking waves. MGO/MDO re-surfaces when the conditions calm. It does not form mousse.		Appendix A
Priority Protection Areas	None		Section 4.4

PART A – PREPAREDNESS INFORMATION

1. INTRODUCTION

1.1 Purpose

The purpose of this Oil Pollution Emergency Plan (OPEP) is to detail Jadestone Energy's oil pollution preparedness and response arrangements for the Montara 1,2,3 activities. This OPEP is a supporting document to the Montara 1,2,3 Wellhead Removal Environment Plan (EP) (TM-70-PLN-I-00010).

The objectives of this OPEP in relation to the unplanned release of hydrocarbons arising from activities associated with Montara 1,2,3 activities are:

- To provide guidance to the IMT in relation to spill response implementation
- To safely limit the adverse environmental effects to the marine environment from an oil spill to a level that is As Low As Reasonably Practicable (ALARP)
- Define the oil spill response arrangements and capability that is in place for the credible spill scenarios
- Provide alignment with arrangements in the Territory Emergency Plan (NT Government, 2021); the NT Oil Spill Contingency Plan (NT DoT, 2014); and the National Plan (AMSA, 2020)
- To meet the requirements of the OPGGS (E) Regulations.

1.2 Area of operation

The Montara 1,2,3 Production Licence (AC/L7) lies within Australian Commonwealth waters of the East Timor Sea, approximately 690 km west of Darwin, latitude 12° 32' 45.22" S and longitude 124° 26' 47.56" E in a water depth of approximately 80 m. The location of the Montara 1,2,3 wells is provided in Figure 1-1.

Section 2 of the EP provides and activity description and Section 3 of the EP includes a comprehensive description of the existing environment in the Operational Area and the potential spill trajectory area (as predicted by spill fate modelling). A list of the nearest regional features is provided in Table 1-1.

Table 1-1: Distances from the Montara Field to key regional features

Regional Feature	Distance from Montara Field (km)
Goeree Shoal	28
Vulcan Shoal	28
Cartier Island	106
Browse Island	187
Ashmore Reef	149
Hibernia Reef	126

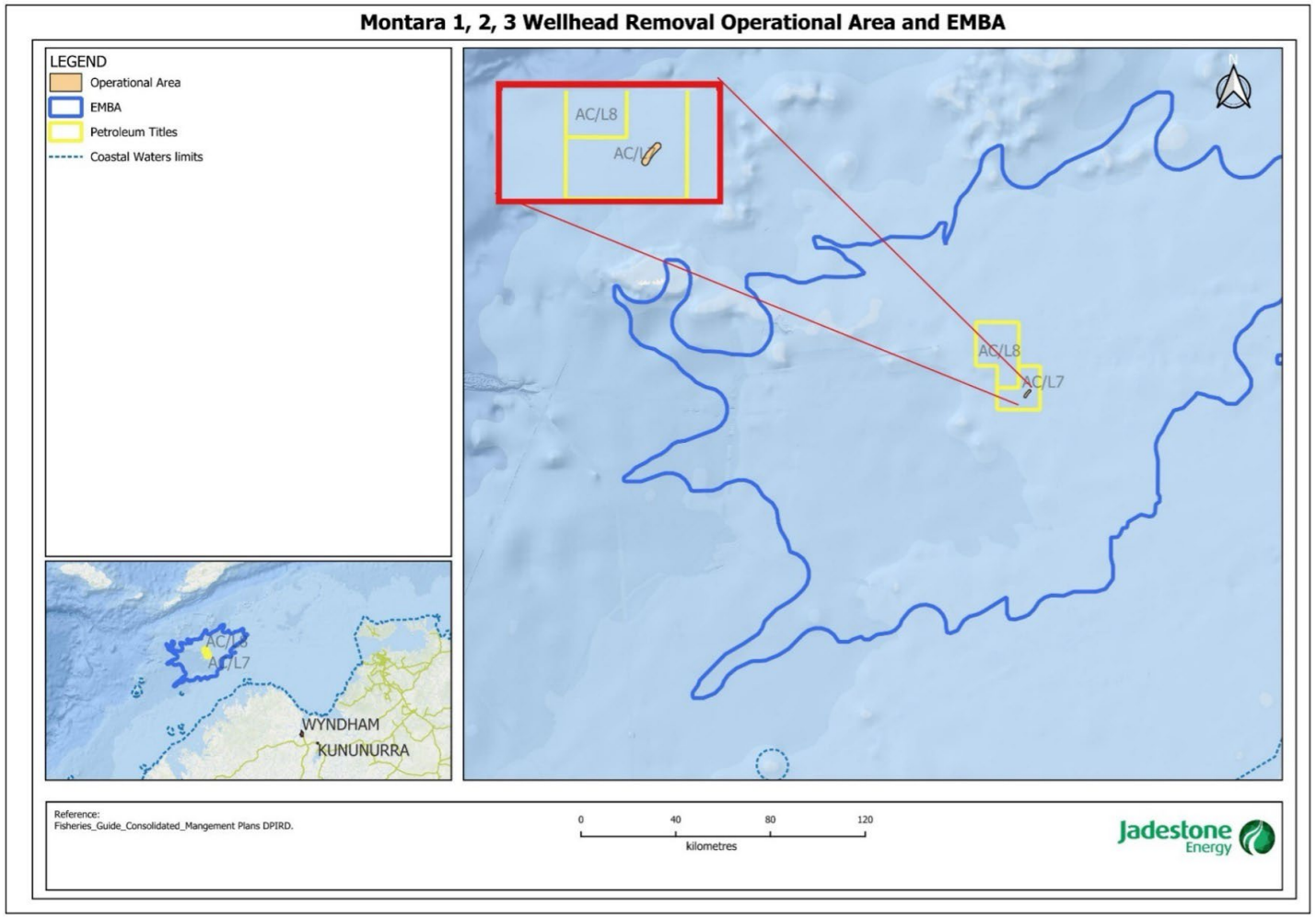

Figure 1-1: Montara 1,2,3 Wellhead Removal Operational Area

1.3 Interface with Other Documents

This OPEP acts as a key document in Jadestone's environmental management framework, as well as being the primary instruction for responding to a spill from Montara 1,2,3 activities. Table 1-2 describes key documents that form Jadestone's environmental management document framework and emergency management documents that also provide guidance and instruction relevant to the spill response.

Table 1-2: Key Jadestone Documents

Reference No.	Description
Emergency and Facility Management Documents	
Incident Management Team Response Plan (JS-70-PLN-F-00008)	Details procedures for responding to an emergency incident, including a hydrocarbon spill event. This plan contains details of the incident management structure, procedures for the activation of the IMT and the roles and responsibilities of the IMT.
Montara Incident Response Plan (MV-70-PLN-F-00001)	Provides information to guide a coordinated and timely offshore and onshore response to all anticipated emergency situations. This document describes the incident command organisational structure, roles and responsibilities of the IRT, initial actions, communication arrangements and reporting requirements. Where required this document will be bridged to the equivalent document for the MODU.
Incident Management Contact List	Contains all internal contact and communications information to enable effective communication amongst response personnel. It also contains details of external Support Agencies, Service Providers and Government Agencies to be contacted as per the reporting requirements in Table 8-1. It is regularly updated and accessed via the Jadestone IMT Portal.
Montara Marine Facility Operating Manual (MV-90-PR-H-00001)	Defines the procedures which must be applied concerning vessel movements and operations within the Marine Facility Restricted Area to ensure safety of personnel, protection of the environment and protection of equipment.
Environmental Management Documents	
Montara 1,2,3 Wellhead Removal Environment Plan (EP) (TM-70-PLN-I-00010)	The EP describes the drilling activity and the location, the environment, the risks to the environment as a result of the activity and the associated management controls. Of particular relevance to this plan, it identifies sensitive receptors, potential impacts from hydrocarbon spills and the environment that may be affected (EMBA).
Montara Operational and Scientific Monitoring Bridging Implementation Plan (OSM-BIP) (TM-70-PLN-I-00007)	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 Jadestone's activities and spill risks in Australian waters.

In addition, this OPEP is consistent with the requirements of external documents and frameworks for spill response, including:

- National Plan for Maritime Environmental Emergencies (National Plan) and National Marine Oil Spill Contingency Plan – sets out national arrangements, policies and principles for the management of maritime environmental emergencies. The plan provides for a comprehensive response to maritime environmental emergencies regardless of how costs might be attributed or ultimately recovered.
- Australian Government Coordination Arrangements for Maritime Environmental Emergencies – provides a framework for the coordination of Australian Government departments and agencies in response to maritime environmental emergencies.

- AMOSPlan – Australian Industry Cooperative Spill Response Arrangements – details the cooperative arrangements for response to oil spills by Australian oil and associated industries.
- NT Territory Emergency Plan - describes the NT approach to emergency and recovery operations, the governance and coordination arrangements, and roles and responsibilities of agencies (https://pfes.nt.gov.au/sites/default/files/uploads/files/2021/NTES_Territory_Emergency_Plan_2021.pdf).
- NT Oil Spill Contingency Plan - outlines the approach to management of marine oil pollution that are the responsibility of the NT Government (the NTOSCP is currently being revised).
- NT Oiled Wildlife Response Plan (NTOWRP) - an industry prepared plan, which is designed to ensure timely mobilisation of appropriate resources (equipment and personnel) in the event of an incident affecting wildlife in NT waters.
- Joint Industry Operational and Scientific Monitoring Framework - provides a standardised approach to oil pollution monitoring, including industry guidance, templates, worked examples and standardised Operational and Scientific Monitoring Plans which titleholders can apply to identify and detail monitoring arrangements and capabilities in their EP and OPEP submissions.
- WA Oiled Wildlife Response Plan – establishes the framework for responding to potential or actual wildlife impacts in WA waters, within the framework of an overall maritime environmental emergency; outlines risk reduction strategies, preparedness for, response to and initiation of recovery arrangements for wildlife impacts during a marine oil pollution incident.
- WA Oiled Wildlife Response Manual – a companion document to the WA Oiled Wildlife Response Plan for Maritime Environmental Emergencies, designed to standardise operating procedures, protocols and processes for wildlife response.
- Oil Spill Response Limited (OSRL) Associate Agreement – defines the activation and mobilisation methods of OSRL spill response personnel and equipment allocated under contract.

1.4 Document Review

The document may be reviewed and revised, if required, in accordance with the Jadestone Management of Change Procedure (JS-90-PR-G-00017). This could include changes required in response to one or more of the following:

- when major changes have occurred that affect oil spill response coordination or capabilities
- changes to the Environment Plan that affect oil spill response coordination or capabilities (e.g. a significant increase in spill risk)
- following routine testing of the OPEP if improvements or corrections are identified
- after a Level 2/3 spill incident.

The extent of changes made to the OPEP and resultant requirements for regulatory resubmission will be informed by the relevant Commonwealth regulations; i.e. the OPGGS (E) Regulations.

The custodian of the OPEP is the Occupational Health, Safety and Emergency Response Lead.

2. SPILL MANAGEMENT ARRANGEMENTS

2.1 Spill Response Levels

Jadestone uses a tiered response framework which classifies incidents based on the significance of the consequences, the risks involved and potential for escalation. The significance of the incident determines the level of response that is activated.

Incident response personnel are trained to respond according to the characteristics of the response level. Table 2-1 provides an overview of the characteristics and escalation criteria for each level and how each level aligns to the incident levels in the National Plan for Environmental Emergencies (AMSA, 2020).

Following an oil spill incident to the marine environment, the OIM or Vessel Master shall make the initial assessment of the spill, which shall then be confirmed in consultation with the IMT Leader. If the Incident Management Team is activated, the IMT Leader is responsible for ongoing re-assessment of spill level.

In the event of a spill occurring where an effective response is considered beyond the capabilities within a level, the response will be escalated immediately to the next level. The decision to escalate a response to a higher level (as defined in Table 2-1) will be made by the responsible Control Agency (Section 2.2). If the response level is undetermined, then a worst-case scenario should be assumed when activating resources, as it is always possible to scale down the response effort.

The level of the oil spill incident shall be recorded in the IMT Incident Log following activation.

Table 2-1 shall be used by the MV OIM and IMT Leader when determining the level of the oil spill incident.

Table 2-1: Oil Spill Response Level Classification for Spills to the Marine Environment

Characteristic	Incident management response level		
	Level 1	**Level 2**	**Level 3**
Teams involved	Incident Response Team		
	Inform IMT	Incident Management Team	
	-	Inform Group Crisis Team	Group Crisis Team
General description and escalation criteria	An incident which will not have an adverse effect on the public or the environment which can be controlled using resources normally available at the facility or vessel concerned without the need to mobilise the Jadestone IMT or other external assistance.	An incident that cannot be controlled using facility resources alone and requires external support and resources to combat the situation Or An incident that can be controlled by the facility but which may have an adverse effect on the public or the environment.	An incident which has a wide-ranging impact on Jadestone and may require the mobilisation of external State/Territory, National or International resources to bring the situation under control.
AMSA National Plan levels and escalation criteria	**Level 1** Generally able to be resolved by Responsible Party through the application of local or initial response resources (first strike response)	**Level 2** Typically, more complex in size, duration, resource management and risk than Level 1 incidents. May require deployment of resources beyond the first strike response	**Level 3** Characterised by a high degree of complexity, require strategic leadership and response coordination. May require national and international response resources

Characteristic	Incident management response level		
	Level 1	Level 2	Level 3
Resources at risk			
Human	Potential for serious injuries	Potential for loss of life	Potential for multiple loss of life
Environment	Isolated impacts or with natural recovery expected within weeks.	Significant impacts and recovery may take months. Monitoring and remediation may be required.	Significant area and recovery may take months or years. Monitoring and remediation will be required.
Wildlife	Individuals of a small number of fauna species affected	Groups of fauna species or multiple numbers of individuals affected	Large numbers of fauna (individuals and species) affected
Economy	Business level disruption	Business failure	Disruption to a sector
Social	Reduced services	Ongoing reduced services	Reduced quality of life
Infrastructure	Short term failure Non-safety/operational critical failure	Medium term failure Potentially safety/operational critical failure	Severe impairment Safety/operational critical system failure
Public affairs	Local and regional media coverage	National media coverage	International media coverage

2.2 Control Agencies and Jurisdictional Authorities

The responsibility for an oil spill is dependent on location and spill origin. The National Plan for Maritime Environmental Emergencies (National Plan) (AMSA, 2020) sets out the divisions of responsibility for an oil spill response. Definitions of Jurisdictional Authority and Control Agency are as follows:

- Jurisdictional Authority: the agency which has responsibility to verify that an adequate spill response plan is prepared and, in the event of an incident, that a satisfactory response is implemented. The Jurisdictional Authority is also responsible for initiating prosecutions and the recovery of clean-up costs on behalf of all participating agencies.
- Control Agency: the organisation assigned by legislation, administrative arrangements or within the relevant contingency plan, to control response activities to a maritime environmental emergency. Control Agencies have the operational responsibility of response activities but may have arrangements in place with other parties to provide response assistance under their direction.

Table 2-2 provides guidance on the designated Control Agency and Jurisdictional Authority for Commonwealth and State waters and for vessel and petroleum activity spills.

Table 2-2: Jurisdictional Authorities and Control Agencies for hydrocarbon spills

Jurisdiction	Spill Source	Jurisdictional Authority	Control Agency	
			Level 1	Level 2/3
Commonwealth waters (three to 200 nautical miles from territory/state sea baseline)	Vessel[1]	AMSA	AMSA	
	Petroleum activity[2]	NOPSEMA	Titleholder	
Northern Territory (NT) waters[3] (Territory waters to three nautical miles and some areas around offshore atolls and islands)	Vessel	NT Department of Environment, Parks and Water Security (DEPWS)	Vessel owner	DEPWS / NT Incident Controller (IC) / Territory Emergency Management Council (TEMC)
	Petroleum activity	DEPWS	Titleholder	
International waters	All activities	Relevant foreign authority	Jadestone will liaise with the Australian Government Department of Foreign Affairs and Trade (DFAT) in the event that an oil spill may enter international waters. Jadestone will work with DFAT and the respective governments to support response operations, as requested.	

2.3 Petroleum Activity Spill in Commonwealth Waters

For an offshore petroleum activity spill in Commonwealth waters, the Jurisdictional Authority is NOPSEMA. NOPSEMA is responsible for the oversight of response actions to pollution events from offshore Petroleum Activities, in areas of Commonwealth jurisdiction. During a spill incident, NOPSEMA's role will be to implement regulatory processes to monitor and secure compliance with the OPGGS Act 2006 and OPGGS (E) Regulations, including the issuing of directions as required, and investigate accidents, occurrences and circumstances involving deficiencies in environment management.

Under the OPGGS (E) Regulations and Section 572C of the OPGGS Act 2006, the petroleum titleholder (i.e. Jadestone) is responsible for responding to an oil spill incident as the Control Agency in Commonwealth waters (Refer to Table 2-2), in accordance with this OPEP.

NOPSEMA, as the Jurisdictional Authority, is responsible for verifying that an adequate spill response plan is prepared, and in the event of an incident, that a satisfactory response is implemented. Where NOPSEMA considers it necessary to intervene during an oil pollution incident to protect the safety of people or the environment, NOPSEMA may direct a petroleum titleholder to take or cease to take certain actions in response to the oil pollution incident.

[1] Vessels are defined by Australian Government Coordination Arrangements for Maritime Environmental Emergencies (AMSA, 2017a) as a seismic vessel, supply or support vessel. N.B. this definition does not apply to WA State waters.

[2] Includes a 'facility', such as a fixed platform, FPSO/FSO, MODU, subsea infrastructure, or a construction, decommissioning and pipelaying vessel. As defined by Schedule 3, Part 1, Clause 4 of the OPGGS Act 2006. Refer to the NOPSEMA Guideline - Facility definition includes an associated offshore place (NOPSEMA, 2020) for additional clarification of definition of a facility.

[3] Note: Oil spill modelling did not predict contact within NT jurisdictional boundaries. However, NT arrangements are included in this OPEP on a precautionary basis; however, it is unlikely that a spill will cross from Commonwealth to the NT jurisdiction, and therefore unlikely that NT arrangements will be implemented.

2.4 Cross-jurisdictional spills

2.4.1 Cross-jurisdictional petroleum activity spills

If a Level 2/3 petroleum activity spill crosses jurisdictions between Commonwealth and NT waters, the Jurisdictional Authority remains true to the source of the spill (i.e. NOPSEMA for Commonwealth waters; NT Control Agency for NT waters).

Where a Level 2/3 spill originating in Commonwealth waters moves into Territory waters, multiple Control Agencies will exist: NT Control Agency and the petroleum titleholder (Jadestone), each with its own IMT and Lead IMT responsibilities. The arrangements between the NT Control Agency and Jadestone for sharing resources and coordinating a response across both Commonwealth and Territory waters are further detailed in Section 2.5.2.

2.4.2 Cross-jurisdictional vessel spills

If a Level 2/3 vessel spill crosses jurisdictions between Commonwealth and Territory waters, multiple Jurisdictional Authorities will exist: AMSA for Commonwealth waters; and NT Control Agency for NT waters. Coordination of Control Agency responsibilities will be determined by the NT Control Agency and AMSA based on incident specifics, with Jadestone providing first strike response and all necessary resources (including personnel and equipment) as a supporting agency.

2.5 Integration with government organisations

2.5.1 AMSA

AMSA manages the National Plan for Maritime Environmental Emergencies (National Plan), Australia's key maritime emergency contingency and response plan (AMSA, 2020). AMSA fulfils its obligations under the National Plan for non-ship source pollution incidents on the formal request from the respective Offshore Petroleum Incident Controller/s (AMSA, 2021).

AMSA is to be notified immediately of all ship-source incidents through the AMSA Rescue Coordination Centre (RCC) Australia, as outlined in Table 8-1. In addition, in the interests of facilitating the most efficient and effective response to any oil pollution event (regardless of source), Jadestone Energy agrees to notify AMSA as per the notifications in Table 8-1.

The AMSA National Plan Incident Management System Policy (NP-POL-003) (AMSA, 2022) describes the incident management system which is applied by AMSA, State Control Agencies and the offshore industry Australia wide for all marine oil spill response incidents and implemented through the National Plan for Maritime Environmental Emergencies. The Jadestone Incident Management System is based on AIIMS which is consistent with the AMSA system.

Copies of National Plan supporting documentation can be found here: https://www.amsa.gov.au/marine-environment/national-plan-maritime-environmental-emergencies#collapseArea374

2.5.2 NT Government

Note: Oil spill modelling did not predict contact within NT jurisdictional boundaries. However, NT arrangements are included in this OPEP on a precautionary basis; however, it is unlikely that a spill will cross from Commonwealth to the NT jurisdiction, and therefore unlikely that NT arrangements will be implemented.

For a spill originating from a Jadestone activity, as soon as possible and within 24 hours of Jadestone becoming aware of an incident/spill that could reach NT coastal waters or shorelines, Jadestone will notify the NT Pollution Response Hotline and the DEPWS, in their role as Hazard Management Authority for oil spills in NT waters (excluding Darwin Harbour) under the 'all-hazards' Territory Emergency Plan (TEP) (NT Emergency Services, 2022) .

Upon notification of a spill entering NT waters, or with the potential to enter NT waters, the DEPWS, as the Control Agency , specifically, the DEPWS CEO in their role as the Territory Marine Pollution Coordinator (TMPC), will notify the Territory Emergency Controller (NT Commissioner of Police or delegate) who will appoint an NT Incident Controller (NT IC). The NT IC will form a NT Incident Management Team (IMT) appropriate to the scale of the incident with representatives from relevant emergency "Functional Groups" as identified under the TEP. If required an IMT will be established, made up of staff from across NT Government. If requested by the NT IC, members from the National Response Team may also be present. The NT IMT will be supported by existing NT emergency response arrangements, as defined in the NT *Emergency Management Act 2013*, through the Territory Emergency Management Council (TEMC) and the TEP.

The Northern Territory Oil Spill Contingency Plan (Northern Territory Government, 2021) is a sub-plan under the TEP. DEPWS has agreed, through consultation with the NT Government and the Australian Energy Producers (AEP) (formerly Australian Petroleum Production & Exploration Association [APPEA]) Oil Spill Preparedness and Response Working Group (20 June 2023), in principle, to utilise the WA Department of Transport and Major Infrastructure (DTMI) Marine Oil Pollution: Response and Consultation Arrangements (WA DoT, 2020), as the basis for development of NT cross jurisdictional arrangements. A working group is being established (August 2023) to develop the NT cross-jurisdictional arrangements, which once agreed, will be updated into the NT OSCP. In the interim, the WA DTMI (2020) cross jurisdictional guidance can be broadly utilised by titleholders, as reference for how to support the NT IMT.

For all Level 2/3 spills from vessel/petroleum activities that enter NT waters, the DPEWS will assume the role of Control Agency.

The NT IC, with advice from NT Environment, Scientific and Technical advisors, will work with the Jadestone IMT to agree protection priorities and determine the most appropriate response in NT waters. Jadestone will provide support to the NT IMT from the Jadestone IMT at the Incident Coordination Centre (ICC) in Perth. The Jadestone IMT will provide support, including drafting of operational taskings or Incident Action Plans (IAPs), to the NT IC for approval prior to their release/implementation.

At the request of the NT IC, Jadestone will be required to provide all necessary resources, including personnel and equipment, to assist the NT IMT in performing its duties for NT waters and shorelines. This may include the provision of personnel to:

- work within the NT IMT; and
- assist response activities such as shoreline protection, clean-up and oiled wildlife response.

To facilitate coordination between the NT IMT and Jadestone IMT during a response, the NT IMT and Jadestone Forward Operating Base (FOB) will be established to ensure alignment of objectives and provide a mechanism for de-conflicting priorities and resourcing requests directly between the Jadestone IMT in Perth and NT IMT in Darwin.

The NT Government and relevant Control Agency plans to utilise the Northern Territory Oiled Wildlife Response Plan (AMOSC, 2019) as the basis for the determination of protection priorities and shoreline response planning.

2.5.3 Department of Foreign Affairs and Trade

In the event of a spill predicted to migrate into neighbouring countries Exclusive Economic Zones, Jadestone will notify the Department of Foreign Affairs and Trade (DFAT) who will in turn notify the affected government(s) and engage the preferred methods for Jadestone to respond in order to minimise the impacts to ALARP. In most cases, NOPSEMA, Department of Industry, Science and Resources (DISR) and DFAT will form an inter-agency panel; the Australian Government Control Crisis Centre, who may request AMSA to coordinate the response operations across the trans-national boundary. Jadestone remains willing to respond as per the direction of the affected government(s) and designated Control Agency, following approvals established between DFAT and the affected country's government.

2.6 Interface with external organisations

2.6.1 Australian Marine Oil Spill Centre

The AMOSPlan is a voluntary mutual aid plan which is administered and funded by the oil industry through AMOSC. The principle of the AMOSPlan is that, to assist in a local response to an incident, individual company resources are available under co-operative arrangements through the AMOSC hiring agreements. Jadestone is a participating company of AMOSC and as such has access to AMOSC's Level 2 and 3 oil spill recovery and response equipment, dispersant and technical (human) capabilities, as outlined in the AMOSPlan. AMOSC manages a core group of personnel for oil spill response that can be made available for Jadestone requirements, as outlined in Jadestone's Master Service Contract with AMOSC.

2.6.2 Oil Spill Response Limited

Jadestone Energy is an Associate Member of OSRL, providing access to spill response services from its offices in Perth, Singapore, UK and at other various international locations. In the event of a Level 2/3 response, Jadestone could access OSRL's international personnel, equipment and dispersants to supplement resources available within Australia. Jadestone may also call on OSRL for technical services to support its IMT.

Response equipment and personnel are allocated on a 50% of inventory basis under OSRL's Service Level Agreement (SLA). Jadestone also has access to additional dispersant stockpiles held by OSRL through a Global Dispersant Stockpile Supplementary Agreement.

3. INCIDENT MANAGEMENT

The Jadestone incident response structure is based on the Australasian Inter-Service Incident Management System (AIIMS), which consists of a standard management hierarchy and procedures for managing incidents of any size. The use of AIIMS principles drives consistent response operations through a set of common terminology, procedures and processes to:

- Organise personnel and skills necessary for a safe, secure and compliant response
- Allow personnel from a wide variety of agencies to meld rapidly into a common management structure
- Provide a unified, centrally authorised emergency organisation.

Jadestone utilises a tiered incident response structure to deal with and manage incidents according to the spill response levels (Refer to Table 2-1). The structure is activated progressively, from business as usual, facility-based IRT, shore-based IMT, then if required to the Corporate Group Crisis Team.

The Jadestone incident response organisational structure is defined in the Jadestone Incident Management Team Response Plan (IMTRP) (JS-70-PLN-F-00008), and in Figure 3-1 for reference. Jadestone IMT and IRT roles are scalable; roles can be activated and mobilised according to the nature and scale of the incident response.

Effective incident management requires the ability to establish command and control, gain and maintain situational awareness and then develop, implement and monitor response activities either in support of a Jadestone facility/site or directly.

The Jadestone incident management system defines and standardises the organisational processes and structures to enable transition from reactive to proactive and ensure integration of the organisation and all other stakeholders while promoting successful incident management and coordination.

The IMT Leader will decide whether a full or partial mobilisation is required depending on the nature of the incident and the level of support required by the OSC during the initial period of the incident. The standard Jadestone IMT structure is shown in Figure 3-2.

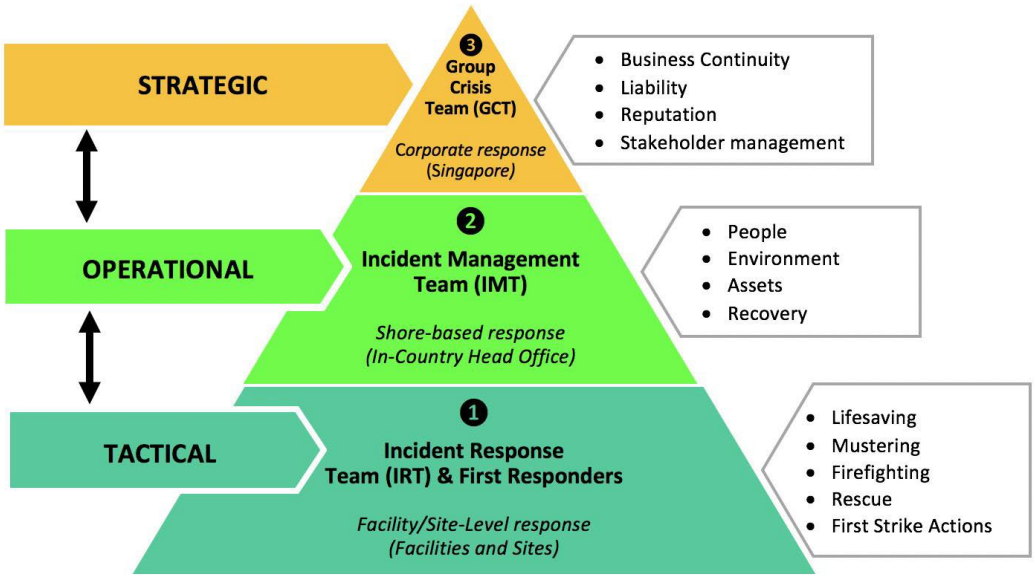

Figure 3-1: Jadestone incident response structure

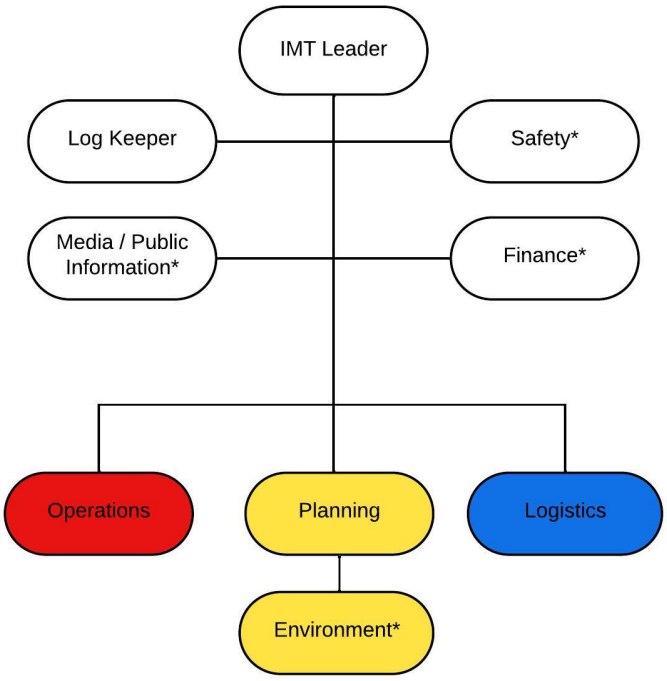

Figure 3-2: Jadestone Incident Management Team Structure

3.1 Incident Response Team– Tactical Level

The IRT and First Responders function at the tactical level and are responsible for the provision of immediate response to incidents in order to preserve safety of life, minimise damage (where possible) to the environment and protect property or assets. The IRT are responsible for the implementation of the Facility's Incident Response Plan.

Each facility/site/office will have a tactical level capability responsible for dealing with any emergency or hazard that may be foreseen as a function of its operations and to provide basic first aid and account for personnel. In addition, communicating of information will be a key requirement from the tactical level upwards to ensure that all levels within the are able to build and maintain situational awareness and provide guidance and/or support as necessary.

3.2 Incident Management Team – Operational Level

For an operational level response, a IMT will generally be required for the following:

- To provide additional support to an IRT (facility or site) during an incident; and/or
- To develop and implement response actions/plans when an incident escalates to a level that the IRT can no longer effectively manage or coordinate response activities (example: Level 2/3 oil spill incident).

The IMT is led by the IMT Leader, who will lead the IMT to address the organisations key priorities. The IMT is responsible for coordinating operational advice and functional support to the IRT and early liaison/notification of the Group Crisis Team and external authorities, if required.

The IMT will develop and implement operational plans to mitigate or respond to the incident and provide technical and logistic support as required.

The key roles and responsibilities of key IMT positions are provided in Appendix B.

3.3 Group Crisis Team – Strategic Level

Strategic level responses support the management of significant events that threaten the organisation and its stakeholders. At Jadestone these types of incidents will be managed by the Group Crisis Team; whose primary objectives will be to:

- Develop strategies and plans to manage reputation, operability, licence to operate, liabilities and/or potential financial loss
- Provide technical, operational and communications advice to the in-country IMT and ensure it is adequately resourced
- Identify, monitor, prioritise and manage domestic and global issues, gaining a deep understanding of perceptions and expectations of response and behaviour
- Liaise and interface with high level government agencies including host country government authorities and elected/appointed political leaders
- Review and approve external and internal engagement strategies/plans and statements at global and country levels.

3.4 IMT Training and Competency

Internal drills/exercises to demonstrate competency are undertaken as per the Incident Management Exercise and Testing Program (JS-70-PR-F-00001). Jadestone's IMT will undertake relevant training in their respective roles and responsibilities as provided by an Australian Registered Training Organisation or internationally accredited training provider.

Competencies for IMT members will be maintained and managed by the Occupational Health, Safety and Emergency Response Lead. Training requirements and core competencies for Jadestone key IMT response personnel are outlined in Appendix C.

3.5 IMT Exercise and Testing Program

Jadestone utilises the categories of drills and exercises in Table 3-1 to maintain the organisation's ability to react to and manage major incidents, maintain competency, and familiarise the Jadestone IMT with the relevant documentation. In addition, Jadestone also conducts reviews of key documentation and availability of equipment to ensure capability is maintained.

Table 3-1: Jadestone Emergency Management Test Categories

Test Type	Description
Workshop	A formal discussion-based activity led by a facilitator or presenter, used to build or achieve a product. Products produced from a workshop can include new or revised plans and procedures, mutual aid or cooperation agreements and improvement plans.
Drill	A coordinated, supervised activity employed to validate a specific function or capability within an organisation. Drills will be used to provide training on new equipment, validate procedures, or practice and maintain current skills.
Exercise	Designed to validate and evaluate capabilities, multiple functions and/or sub-functions, or interdependent groups of functions. Exercises are focused on exercising plans, policies, procedures, and staff members involved in management, direction, command and control

Test Type	Description
	functions. An exercise scenario with event updates drives activity, typically at the management level. Functional exercises are conducted in a realistic, real-time environment.

Jadestone schedules exercises on a three-year exercise cycle. Over the course of a 3-year period it is intended that all major incident events including key Major Accident Event (MAE) and oil spills will be exercised using a stand-alone IMT drill or as part of an annual functional exercise.

Each year, a quarterly MAE scenario, annual oil spill response workshop and annual oil spill exercises will test the IMT and will alternate between Jadestone's offshore facilities. Where response arrangements are the same for a number of activity specific OPEPs, one exercise may be used to test these response arrangements for these OPEPs at the same time. A quarterly MAE scenario can be substituted for, or combined with, the Annual Oil Spill exercise. Exercises program shall align with facility exercise programs wherever practical.

The Incident Management Exercise & Testing Program (JS-70-PR-F-00001) provides information on drill and exercises (types and documentation), including aims of the test, and key testing objectives for the test categories listed in Table 3-1. The Incident Management Exercise & Testing Program (JS-70-PR-F-00001) also includes information on source control exercises.

As part of the exercise process, Jadestone prepares a number of documents to ensure drills and exercises are well planned, conducted and evaluated. To support this, the following documents are used:

- Exercise Scope Document – provides background context to the exercise, outlines the exercise need, aim, objectives, details of the scenario, participating groups and agencies, exercise deliverables and management structure. This document can be used to engage a third-party contractor to assist in conducting the exercise.
- Exercise plan and instructions – provide instructions and 'play' (including any injects) for conducting the exercise.
- Post exercise report – includes an after-action review of the exercise, evaluating how the exercise performed against meeting its aim and objectives.

Jadestone routinely undertakes post-exercise debriefings following Level 2-3 OPEP exercises and drills to identify opportunities for improvement and communicate lessons learned. An independent assessor (either internal or external) will examine the effectiveness of the response arrangements during the annual oil spill exercise. The assessor will make written findings and recommendations from the test for consideration to assist in identifying deficiencies with response arrangements and continually improve Jadestone's overall response readiness. All actions that are derived from drills and exercises including debriefs are documented in Jadestone's Computerised Maintenance Management System (CMMS). CMMS is used to allocate actions to individual positions within Jadestone to ensure any post-exercise actions are completed by a nominated due date.

The following exercises and drills will be conducted to specifically test response preparedness outlined within the scope of this OPEP:

- Test of arrangements when they are introduced or significantly amended; and
- Test of arrangements if a new location or activity is added to the EP after response arrangements have been tested, and before the next test is conducted.

3.6 Emergency Coordination and Response Locations

In support of response operations, an Incident Control Centre (ICC) will be established within the Jadestone Offices in Perth. The ICC has adequate facilities for the IMT to function and coordinate response operations. The main conference room shall be the ICC with meeting rooms used as breakout rooms, as required.

Jadestone utilises an electronic platform to provide all IMT personnel with universal access to key emergency management documents that may be required in the event of a spill (e.g. IMTRP, OPEPs, IAPs). This system is also directly linked to Jadestone's Electronic Document Management System.

Jadestone will also consider the activation of regional operational centre or a Forward Operations Base (FOB) to assist with oil spill response. The location of a regional operational centre or FOB will depend upon the nature, direction and extent of any spill. The preferred regional operational centre or FOB for any spill associated with Montara 1,2,3 activities would be Darwin.

In accordance with the Jadestone IMT structure, the FOB will be subordinate to the IMT Operations function, and will be responsible for the coordination of personnel, resources, material, equipment and localised activities as directed by the IMT.

3.7 Initial Briefing

The IMT Leader is to conduct an initial briefing to bring key IMT members together to share initial assessment information and to outline the process for initial response activities.

The initial briefing is designed to provide all personnel with information about the incident, reason for IMT activation and initial intentions. The objectives of the initial briefing will be to confirm:

- Known details of the incident
- Initial spill level (Table 2-1)
- Actions taken at the tactical level prior to IMT activation
- Overarching intention with respect to IMT actions
- Provision of initial actions to be taken by the IMT.

If required, the initial briefing may be conducted by teleconference ahead of the IMT arriving at the ICC.

3.8 Environmental Performance

Table 3-2 lists the environmental performance standards and measurement criteria for this section.

Table 3-2: Environmental Performance Standards and Measurement Criteria – Incident Management

No.	Performance Standard	Measurement Criteria	Responsibility
Response Preparedness			
EPS01	Training requirements and core competencies for Jadestone's key IMT response personnel are maintained as per the requirements in Appendix C and the Incident Management Team Response Plan (JS-70-PLN-F-00008)	Response personnel competency and training records	Human Resources Manager
EPS02	Jadestone will complete an annual evaluation of oil spill response organisation arrangements and key contractors to confirm it has access to adequate third party service provider capability to address its worst-case resourcing	Audit schedule Audit reports	Emergency Response Lead

No.	Performance Standard	Measurement Criteria	Responsibility
	requirements for Jadestone activities		
EPS03	Jadestone will conduct an annual capability assurance check to confirm it has access to the key personnel listed and resources listed in this OPEP	Audit reports	Emergency Response Lead
EPS04	Personnel are aware of roles and responsibilities in the event of a response, in accordance with Montara Incident Response Plan (MV-70-PLN-F-00001)	Exercise and training records	Emergency Response Lead
EPS05	Internal drills/exercises to demonstrate competency are undertaken as per the Incident Management Exercise and Testing Program (JS-70-PR-F-00001)	Exercise and training records	Emergency Response Lead

4. SELECTION OF RESPONSE STRATEGIES

4.1 Strategic Spill Impact Mitigation Assessment

Titleholders typically use a Spill Impact Mitigation Assessment (SIMA) (also referred to as a Net Environmental Benefit Analysis [NEBA]) as their decision support tool to consider available information which helps them select the most suitable response strategies or combination of strategies that would minimise impacts to ecological, cultural, economic and social values (hereafter referred to as receptors). Different response strategies provide varying levels of effectiveness and protection under different environmental conditions, depending on the individual spill (Coelho *et al*. 2014).

Conducting a SIMA is an important step in the oil spill planning and preparedness process and is often called a Strategic SIMA. An overview of this assessment process is provided in Figure 4-1. To complete a Strategic SIMA, all available information on a potential spill is considered (e.g. oil type, volume, duration of release), together with spill trajectory modelling to consider potential impacts to sensitive receptors.

A list of possible response strategies is considered from a 'response toolbox', as detailed in 4.5.1.

A detailed assessment of the benefits and drawbacks of each response strategy is completed to help determine the combination of strategies that would be most suited to each maximum credible spill scenario. This includes 'primary response strategies' and 'secondary response strategies', with the former typically being more reliable and effective in reducing impacts from an individual spill.

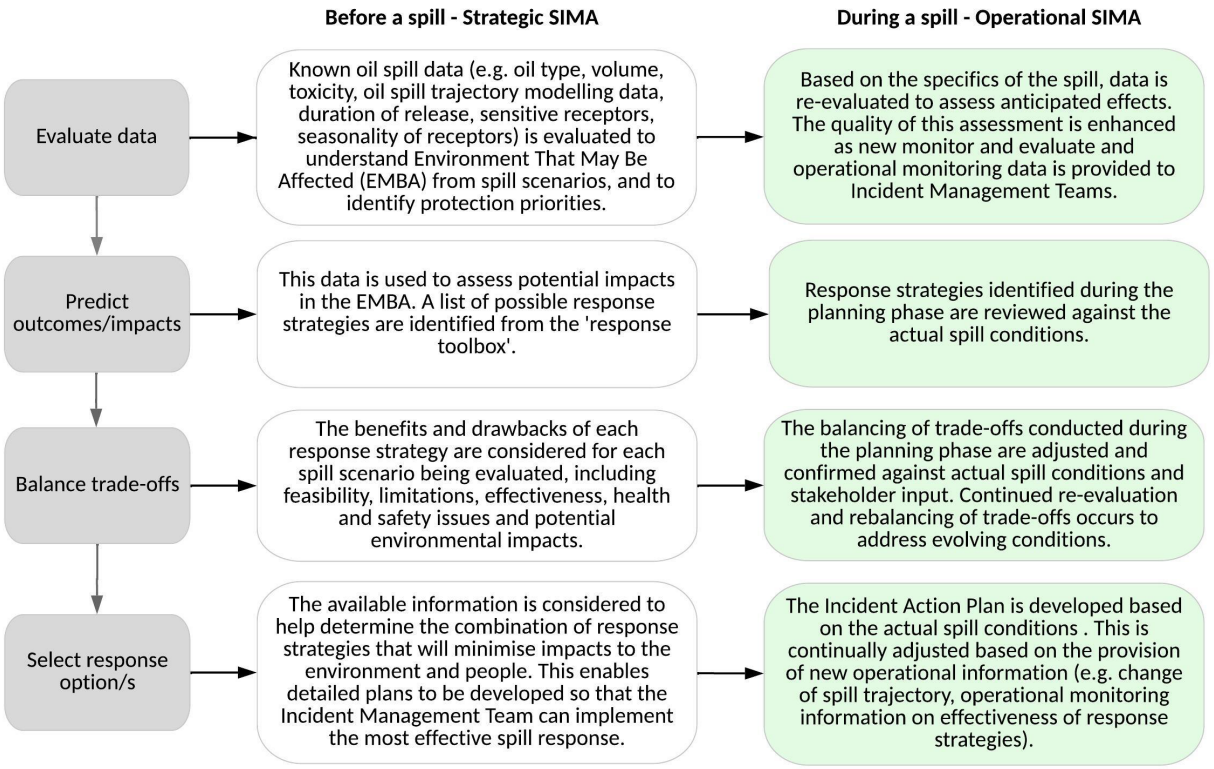

Figure 4-1: SIMA application during planning and responses phases

Source: adapted from IPIECA-IOPG, 2017

4.2 Evaluate Data

4.2.1 Spill Scenarios

During Montara 1,2,3 activities, the following hydrocarbons may be unintentionally released to the marine environment: marine diesel or crude oil.

This OPEP outlines strategies, actions and supporting arrangements applicable for all credible oil spill events associated with Montara 1,2,3 activities. Of the credible spill scenarios identified in the Montara 1,2,3 Wellhead Removal EP (Section 7.5), the vessel collision/fuel tank rupture scenario (400 m^3 of MDO/MGO over 6 hours) (Table 4-1) has been selected to represent worst-case spill.

Table 4-1: Identified Credible Spill Scenarios for Hydrocarbon Releases to the Marine Environment from Montara 1,2,3 Activities

Hydrocarbon Type	Source / Cause	Max. Potential Volume (m^3)	Release Duration
Worst-case credible spill scenarios			
MGO/MDO	Vessel collision / fuel tank rupture	400	6 hours

4.2.2 Hydrocarbon properties

4.2.2.1 Marine Gas Oil

ITOPF (2025) categorises MGO as a light group II hydrocarbon. In the marine environment, a 5% residual of the total quantity of MGO spilt will remain after the volatilisation and solubilisation processes associated with weathering, although this amount will slowly decay over time. Change in the mass balance calculated for MGO weathering under the constant wind case indicates that approximately 40.3% of the oil volume would evaporate within 24 hours. Under calm conditions, the remaining floating oil on the water surface will weather at a slower rate and be subject to more gradual decay through biological and photochemical processes.

While the MGO is entrained, it is forecast to decay at a higher rate of 1.5% per day or ~10.5% after 7 days, attributed to biological and photochemical degradation. This is in contrast to a rate of <0.1% per day and a total of 0.9% after 7 days for the constant-wind case. Given the proportion of entrained MGO and its tendency to remain mixed in the water column, the remaining hydrocarbons are expected to undergo decay over several weeks.

4.2.2.2 Marine Diesel Oil

ITOPF (2025) categorises MDO as a light group II hydrocarbon. In the marine environment, a 10% residual of the total quantity of MDO spilt will remain after the volatilisation and solubilisation processes associated with weathering, although this amount will slowly decay over time. Change in the mass balance calculated for MDO weathering under the constant wind case indicates that approximately 34.4% of the oil volume would evaporate within 24 hours. Under calm conditions, the majority of the remaining oil on the water surface will weather at a slower rate due to the MDO being comprised of the longer-chain compounds with higher boiling points. Evaporation shall cease when the residual compounds remain, and they will be subject to more gradual decay through biological and photochemical processes.

Further detail on MGO and MDO is provided in Appendix A.

4.3 Oil Spill Modelling Results

The worst-case credible spill scenarios shown in Table 4-1 were used as the basis for modelling, which was performed using a three-dimensional spill trajectory and weathering model, Spill Impact Mapping and Analysis Program (SIMAP). The SIMAP model calculates the transport, spreading, entrainment, evaporation

and decay of surface hydrocarbon slicks as well as the entrained and dissolved oil components in the water column, either from surface slicks or from oil discharged subsea.

A total of 300 spill trajectories were simulated across three seasons (i.e. 100 trajectories for Summer [November to February]; 100 for Transitional [March, September, October] and 100 trajectories for Winter [April to August]) using a number of unique environmental conditions sampled from historical metocean data.

The stochastic modelling outputs do not represent the potential behaviour of a single spill (which would have a much smaller area of influence) but provides an indication of the probability of any given area of the sea surface being contacted by hydrocarbons above impact thresholds. For the purpose of spill response preparedness, outputs relating to floating oil and oil accumulated on the shoreline are most relevant (i.e. oil that can be diverted, contained, collected or dispersed through the use of spill response strategies) for the allocation and mobilisation of spill response resources.

Table 4-2 presents the stochastic modelling results for floating hydrocarbons and Table 4-3 presents the results for shoreline accumulation for the vessel collision/fuel tank rupture (400 m^3 MGO/MDO). No shoreline accumulation ≥100 g/m^2 was predicted at any receptor for the vessel collision/fuel tank rupture scenario.

Modelling results for dissolved and entrained oil for the worst-case scenarios have not been included given there are limited response strategies that will reduce subsurface impacts.

Table 4-2: Spill modelling results – predicted floating oil from Montara 1,2,3 vessel collision (400 m^3 MGO/MDO)

Receptor	Probability (%) of ≥1 g/m^2 floating	Min. arrival time ≥1 g/m^2 floating (days: hours)	Probability (%) of ≥10 g/m^2 floating	Min. arrival time ≥10 g/m^2 floating (days: hours)	Probability (%) of ≥50 g/m^2 floating	Min. arrival time ≥50 g/m^2 floating (days: hours)
Eugene McDermott Shoal* (T)	4	4 d 2 hr	NC	NC	NC	NC
Goeree Shoal* (W)	1	1 d 9 hr	NC	NC	NC	NC
Vulcan Shoal* (T)	1.67	2 d 10 hr	NC	NC	NC	NC
Australian Exclusive Economic Zone (EEZ) (T)	100	0.25 hr	100	0.25 hr	100	0.75 hr
Carbonate bank and terrace system of the Sahul Shelf Key Ecological Feature (KEF)* (T)	2	3 d 16 hr	NC	NC	NC	NC

*S= Summer (November to February); T= Transitional (March, September, October); W= Winter (April to August); NC= No contact predicted; * 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.*

Source: RPS, 2025

Table 4-3: Spill modelling results – predicted shoreline accumulation from Montara 1,2,3 vessel collision (400 m^3 MGO/MDO)

Receptor	Probability (%) of shoreline accumulation ≥10 g/m^2	Min. arrival time (days) shoreline accumulation ≥10 g/m^2	Probability (%) of shoreline accumulation ≥100 g/m^2	Min. arrival time (days) shoreline accumulation ≥100 g/m^2	Peak volume on shoreline (m^3) in the worst replicate simulation	Max. length shoreline accumulation (km) ≥100 g/m^2
Cartier Island (W)	1	10 d 18 hr	NC	NC	1.15	NC

S= Summer (November to February); T= Transitional (March, September, October); W= Winter (April to August); NC= No contact predicted

** Intertidal receptor that is mainly exposed at low tide with no/limited permanent features above the sea surface.*

Source: RPS, 2025

4.4 Protection Priority Areas

For any oil spill that enters or occurs within NT waters, the NT Control Agency is the ultimate decision-maker regarding identification and selection of protection priorities.

Prioritising receptors helps identify where available resources should be directed for an effective response and to minimise impacts on key environmental and/or socioeconomic receptors. This enables the Control Agency to make informed decisions, and ultimately develop and execute an effective response operation.

Spill modelling results were used to predict the EMBA for Montara 1,2,3 activities. The Risk EMBA is the area in which Jadestone's activities may result in environmental impacts – defined as the area potentially impacted by hydrocarbons from a spill event above impact concentration thresholds.

Results from hydrocarbon spill modelling were compared against the location of key sensitive receptors with high conservation valued habitat or species, and/or important socio-economic/heritage value within the Risk EMBA for Montara 1,2,3 activities (refer to Section 7.6 and 7.7 of the EP). This analysis is used to identify Protection Priority Areas (PPAs) within the Risk EMBA.

Jadestone defines PPAs as:

- emergent receptors (i.e. coastal areas and islands) that are predicted to be contacted at moderate thresholds at greater than 5% probability; and
- receptors predicted to be contacted within the shortest timeframe; or
- receptors predicted to be contacted at the highest volumes; or
- Are vulnerable to impact from hydrocarbons – e.g. mangroves are more vulnerable than intertidal rock pavement; known turtle nesting beaches are vulnerable during nesting periods; or
- Any other area of interest within the Risk EMBA including areas that have a high social value or are a concern raised through stakeholder consultation (refer Section 4 of the Montara 1,2,3 Wellhead Removal EP).

An assessment of the modelling results against Jadestone's PPA criteria revealed no receptors met the criteria and therefore no PPAs exist for this activity.

Implementation of operational and scientific monitoring may focus on other receptors as described in the Montara OSM-BIP (TM-70-PLN-I-00007).

4.5 Predict Outcomes

4.5.1 Response Toolbox

Possible response strategies for a surface oil spill include:

- Monitor and evaluate
- Source control
- Containment and recovery
- (Mechanical) physical dispersion
- Chemical dispersion – surface application
- Shoreline protection
- Shoreline clean-up
- In-situ burning
- Oiled wildlife response

Support functions:

- Waste management
- Scientific monitoring

4.5.2 Response Planning Thresholds

In addition to the impact assessment thresholds described in the Montara 1,2,3 Wellhead Removal EP (Section 7.5.3), response thresholds have been developed for response planning to determine the conditions that response strategies would be effective. These thresholds are provided as a guide for response planning based on case studies that have demonstrated some response strategies (e.g. chemical dispersant application) require certain oil spill thicknesses and conditions to be effective.

The thresholds assist with understanding worst-case spill scenario response strategy capability requirements when used in conjunction with oil spill trajectory modelling results. Modelling informs the predicted spatial extent of the spill at certain response thresholds, which in turn can inform response strategy capability.

Response planning thresholds are provided in Table 4-4.

Table 4-4: Response Planning Hydrocarbon Thresholds

Hydrocarbon (g/m^2)	Description	Justification
≥1	Estimated minimum threshold for commencing some monitoring components (e.g. water quality monitoring) and monitoring and evaluation tactics (e.g. aerial surveillance)	This thickness approximates the range of socio-economic effects and helps to establish the spatial extent for scientific monitoring (NOPSEMA, 2019).
≥10	Estimated minimum threshold for commencing all triggered monitoring components	This approximates the lower limit for harmful exposures to birds and marine mammals (NOPSEMA, 2019) so assists with planning for related scientific monitoring components.
≥50	Estimated minimum floating hydrocarbon threshold for on water response strategies	Surface chemical dispersants are most effective on hydrocarbons that are at a thickness of 50–100 g/m^2 on the sea surface. EMSA (2010) recommends thin layers of spilled

Hydrocarbon (g/m^2)	Description	Justification
		hydrocarbons should not be treated with dispersant. This includes Bonn Agreement Oil Appearance Codes (BAOAC) 1–3 (EMSA, 2010). However, this may not always be practical in the field, as the actual thickness of a slick can vary greatly over even short distances (IPIECA-IOPG, 2015). Hence, this threshold is applied for planning purposes but should be judged according to real-time conditions in the event of a spill. McKinney and Caplis (2017) tested the effectiveness of various oil skimmers at different oil thicknesses. Their results showed that the oil recovery rate of skimmers dropped significantly when oil thickness was less than 50 g/m^2.
≥100	Estimated floating hydrocarbon threshold for on water response strategies. Estimated minimum shoreline accumulation threshold for shoreline clean-up (if required) and subsequent waste management.	This threshold is often used as the minimum thickness for effective shoreline clean-up (Owens and Sergy, 2000; French-McCay, 2009).

4.6 Balance Trade-offs and Select Applicable Response Strategies

Selecting which response strategies to use often involves making trade-offs (e.g. risk, feasibility, flexibility, effectiveness), based on which environmental receptors should receive priority for protection. Table 4-5 indicates the applicability of each possible response strategy (Section 4.5.1) for each of the worst-case spill scenarios listed in Table 4-1.

Note: The information contained in Table 4-5 has been developed by Jadestone for preparedness purposes. Jadestone may not be the Control Agency or Lead IMT for implementing a spill response. For example, for Level 2/3 spills within or entering NT waters, the NT Control Agency will ultimately determine the strategies and controls implemented for most NT waters activities with Jadestone providing resources and planning assistance.

Table 4-5: Evaluation of Applicable Response Strategies – Strategic SIMA

OSR strategy	MGO/MDO	Operational Considerations
Source Control	Primary response strategy	In the event of a vessel spill, the Vessel Master would revert to the SOPEP, which is a MARPOL requirement for applicable vessels. The SOPEP may include guidance for securing cargo via transfer to another storage area on-board the vessel, transfer to another vessel, or through pumping in water to affected tank to create a water cushion (tank water bottom). Trimming the vessel may also be used to avoid further damage to intact tanks.
Monitor and evaluate	Primary response strategy	Surveillance actions are used to monitor and evaluate the dispersion of the released hydrocarbon, and to identify and report on any potential impacts to flora and fauna that may occur while the spill disperses. This strategy has several tactics (e.g. tracking buoys, aerial surveillance, satellite surveillance) and is scalable according to the nature and scale of a spill. There are clear benefits in maintaining situational awareness throughout the duration of a spill event and little or no environmental impact associated with its implementation. Operational monitoring results can also be used to assist in escalating or de-escalating response strategies as required.
Chemical Dispersion (Surface)	Not recommended	Not suitable for MGO/MDO as it is not a persistent hydrocarbon and has high natural dispersion rates in the marine environment. Chemical dispersant application is not recommended as a beneficial option for MGO/MDO as it has a low probability of increasing the dispersal rate of the spill while introducing more chemicals to the marine environment.
Mechanical dispersion	Not recommended	In general, this strategy is considered an opportunistic strategy; used on targeted, small, breakaway areas, especially patches close to shorelines. Given that oil is expected to emulsify by the time it approaches shorelines, and chemical dispersant application would be preferred as a means of dispersing bulk oil; this strategy has limited effectiveness and is not considered to be a strategy requiring further planning and associated control measures.
In-situ burning	Not recommended	Operational and oil constraints expected during an MGO/MDO spill suggest in-situ burning is not applicable. For in-situ burning to be undertaken, oil has to be thicker than 1–2 mm but marine diesel tends to have high evaporation rate and spreads into very thin films rapidly. Due to operational constraints and the expected hydrocarbon not being suitable for in-situ burning, this response strategy is deemed inappropriate for this activity.
Containment and Recovery	Not recommended	Given the fast-spreading nature of MGO/MDO, and the expected moderate sea states of the area causing the slick to break up and disperse, this response is not considered to be effective in reducing the net environmental impacts of an MGO/MDO spill. The ability to contain and recover spreading MGO/MDO on the ocean water surface is extremely limited due the very low viscosity of the fuel and the inability to corral the hydrocarbon to a sufficient thickness for skimmers to be effective at removal.

OSR strategy	MGO/MDO	Operational Considerations
Shoreline Protection and Deflection	Not applicable	Modelling indicates no shoreline accumulation above moderate shoreline accumulation thresholds (>100 g/m^2).
Shoreline Clean-up	Not applicable	Modelling indicates no shoreline accumulation above moderate shoreline accumulation thresholds (>100 g/m^2).
Oiled Wildlife Response	Primary response strategy	Applicable for marine animals that come close to the spill when on the water and shorelines. Targeted wildlife surveillance/reconnaissance with planning taking into consideration the time of year and key biological activities such as breeding, mating, nesting, hatching or migrating.
Operational and Scientific Monitoring	Primary response strategy	Applicable for marine environment contacted by hydrocarbons either by floating, dissolved or entrained.

5. COST RECOVERY

As required under Section 571(2) of the OPGGS Act 2006, Jadestone has financial assurances in place to cover any costs, expenses and liabilities arising from carrying out its petroleum activities, including major oil spills. This includes costs incurred by relevant control agencies (e.g. NT Control Agency) and third-party spill response service providers.

PART B – RESPONSE IMPLEMENTATION

This OPEP should be implemented in conjunction with the Jadestone Incident Management Team Response Plan (IMTRP) (JS-70-PLN-F-00008). Section 3 of the IMTRP provides guidance on the incident management process which is shown in Figure B-1.

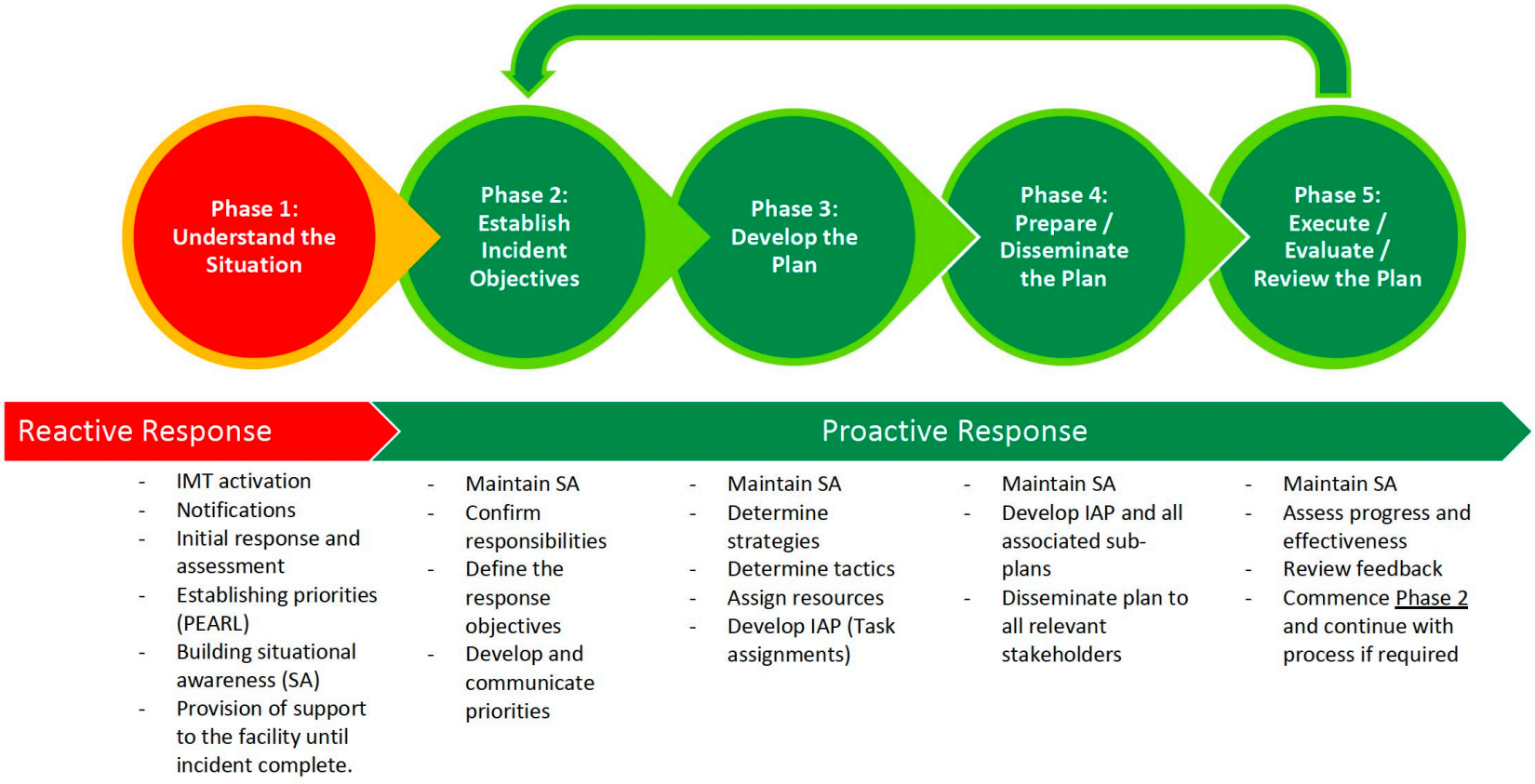

Figure B-1: Jadestone's Incident Management Process

6. INCIDENT ACTION PLAN

Jadestone's IMT use the incident management planning process described in Section 5 of the IMTRP to develop IAPs.

The IAP formally documents and communicates the:

- Incident objectives
- Effectiveness of the response strategies
- Status of assets
- Operational period objectives
- The response strategies approved by the IMT Leader during response planning.

It is the responsibility of the IMT to evaluate the response strategies provided in the OPEP based on real time information. The actual response may not always adopt all response options; this is based on the individual circumstances of the spill and the outcomes of the Operational SIMA. The Operational SIMA and IAP process is implemented throughout the response by the IMT to assess the appropriate response strategies and implement these in a controlled manner to ensure the health and safety of operational personnel, minimise environmental impacts and implement an effective response.

The Operational SIMA is revised for each operational period and informs the preparation of the corresponding IAP. The IAP is developed and implemented by the IMT for each defined operational period following the initial first-strike IAP, notifications, and activations defined in OPEPs. An operational period is the period scheduled for execution of actions specified in the IAP. The IAP is refreshed when conditions change and can have multiple objectives, strategies and tactics.

6.1 Monitoring Performance of IAP

As IAPs are implemented, their performance is monitored through IMT communication with in-field response personnel (e.g. surveillance personnel, vessel masters, air-attack supervisors, team leaders etc.) who report on the effectiveness of the response strategies. Communication to the IMT is both verbally and through logs/ reports/ photos sent throughout the response.

The performance objectives and standards for response strategies and tactics are documented in the IAP. Performance against the objectives and standards are assessed through field observations and response monitoring and recorded in the IAP in the next operational period. Response strategies that are effective in obtaining the IAP objectives are continued or increased, while ineffective strategies are scaled back or ceased.

7. NOTIFICATION OF OIL SPILL RESPONSE ORGANISATIONS AND SUPPORT AGENCIES

The IMT Leader may activate external support if required, to assist with Jadestone incident response activities. Resources offered by these support organisations and instructions on when and how to activate them are provided in Table 7-1. The Incident Management Contact List on the Jadestone intranet page contains the contact numbers for all agencies listed in Table 7-1. This document is regularly reviewed and updated.

Table 7-1: List of spill response support notifications

Organisations	Timeframe for Notification	Activation Instructions	Resources available	Person Responsible for Activating
AMOSC Duty Officer (24 hours / 7 days per week)	As soon as possible but within two hours of IMT being notified of incident	Step 1. Notify AMOSC that a spill has occurred. Put on standby as required – activate if spill response escalates in order to mobilise spill response resources consistent with the AMOSPlan. Step 2. Email confirmation and a telephone call to AMOSC will be required for mobilisation of response personnel and equipment. Only a Jadestone call-out authority (registered with AMOSC) can activate AMOSC and will be required to supply their credentials to AMOSC. A signed Service Contract must also be completed by the Jadestone call-out authority and returned to AMOSC. Step 3. AMOSC will provide a Contract Note, which Jadestone must sign and return to AMOSC before mobilisation.	AMOSC equipment lists are available via the Member Login webpage: https://amosc.com.au/member-login/ AMOSC can arrange for transport of their equipment and dispersant to Darwin FOB	IMT Leader (or delegate)
OSRL Duty Manager	Within two hours of IMT being notified of incident	Step 1. Phone OSRL Duty Manager in Singapore and request assistance from OSRL. Step 2. Send written notification to OSRL as soon as possible after verbal notification. Step 3. Upon completion of the OSRL incident notification form, OSRL will plan and place resources on standby.	Jadestone has a Service Level Agreement with OSRL, which includes the provision of support functions, equipment and personnel to meet a wide range of scenarios. At minimum OSRL will provide technical support to the IMT and place resources on standby Further details available on the OSRL webpage.	IMT Leader (or delegate)
Monitoring Service Provider	As per Operational and Scientific Monitoring initiation criteria	Step 1. Obtain approval from IMT Leader to activate Monitoring Service Provider for operational and scientific monitoring. Step 2. Verbally notify Monitoring Service Provider Duty Manager followed by submission of Call Off Order Form. Step 3. Monitoring Service Provider initiates operational and scientific monitoring Activation and Response Process, as outlined	Trained personnel as per Contract	Planning Lead (or delegate)

Organisations	Timeframe for Notification	Activation Instructions	Resources available	Person Responsible for Activating
		in Montara Operational and Scientific Monitoring Bridging Implementation Plan (OSM-BIP) (TM-70-PLN-I-00007).		
Waste Service Provider	As required	Phone call to the Primary Contact Person. In the event the Primary Contact Person is not available, the Secondary Contact Person will be contacted.	Waste management contractor's waste management equipment are summarised in its Waste Management Plan.	Planning Lead (or delegate)
Aviation Service Provider	As required	Phone call	Fixed wing aircraft and crew	Logistics Lead (or delegate)
Transport and Logistics Service Provider	As required	Phone call	Assistance with mobilising equipment and loading vessels	Logistics Lead (or delegate)
Vessel Service Provider	As required	Phone call	Vessels and crew	Logistics Lead (or delegate)

8. EXTERNAL NOTIFICATIONS AND REPORTING

Depending on the type and nature of the incident, various external notifications will be required. The IMT Leader must ensure that notifications (where required) are completed and managed as part of an ongoing incident.

Table 8-1 outlines the external reporting requirements specifically for oil spill incidents outlined within this OPEP in Commonwealth and State jurisdictions, noting that regulatory reporting may apply to smaller Level 1 spills that can be responded to using on-site resources as well as larger Level 2/3 spills. There are also additional requirements for Vessel Masters to report oil spills from their vessels under relevant marine oil pollution legislation (e.g. MARPOL). This includes, where relevant, reporting oil spills to AMSA (Rescue Coordination Centre) and the NT Government.

The Incident Management Contact List on the Jadestone intranet page contains the contact numbers for all agencies listed in Table 8-1. This document is regularly reviewed and updated.

Table 8-1: Regulatory notification and reporting requirements

Agency / Authority	Notification Type and Timing	Legislation / Guidance	Reporting Requirements	Responsibility	Forms
NOPSEMA Reportable Incidents					
NOPSEMA (Incident Notification Office)	Verbal notification within 2 hours Written report as soon as practicable, but no later than 3 days	*Petroleum and Greenhouse Gas Storage Act 2006* Offshore Petroleum Greenhouse Gas Storage (Environment) Regulations 2009 (as amended 2020)	A spill associated with the activity that has the potential to cause moderate to significant environmental damage[4]	Jadestone IMT Planning Lead	Incident reporting requirements: https://www.nopsema.gov.au/environmental-management/notification-and-reporting/
National Offshore Petroleum Titles Administrator (NOPTA) (Titles Administrator)	Written report to NOPTA within 7 days of the initial report being submitted to NOPSEMA	Guidance Note (N-03000-GN0926) Notification and Reporting of Environmental Incidents	Spill in Commonwealth waters that is reportable to NOPSEMA	Jadestone IMT Planning Lead	Provide same written report as provided to NOPSEMA
Level 1-3 Spills					
AMSA (Rescue Coordination Centre (RCC))	Verbal notification without delay to include: • name of ship/s involved	National Plan for Maritime Environmental Emergencies	All slicks trailing from a vessel All spills to the marine environment	Vessel Master	Incident reporting requirements: https://www.amsa.gov.au/marine-environment/marine-pollution/mandatory-marpol-pollution-reporting Online POLREP – https://amsa-forms.nogginoca.com/public/

[4] A reportable incident is defined by the OPGGS (E) Regulations as 'an incident relating to the activity that has caused, or has the potential to cause, moderate to significant environmental damage'. For the purpose of determining whether an incident is a reportable incident, the Titleholder considers any incident that causes, or has the potential to cause, a consequence severity rating of 3 or greater to be a reportable incident.

Agency / Authority	Notification Type and Timing	Legislation / Guidance	Reporting Requirements	Responsibility	Forms
	• time, type and location of incident • quantity and type of harmful substance • assistance and salvage measures • any other relevant information • written POLREP form, within 24 hours of request from AMSA		All spills where National Plan equipment is used in a response		
Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) (Director of monitoring and audit section)	Email notification as soon as practicable	*Environment Protection and Biodiversity Conservation Act 1999*	If Matters of National Environmental Significance (MNES) are considered at risk from a spill or response strategy, or where there is death or injury to a protected species	Jadestone IMT Planning Lead	N/A
Parks Australia (24 hour Marine Compliance Officer)	Verbal notification as soon as practicable	*Environment Protection and Biodiversity Conservation Act 1999*	All actual or impending spills which occur within a marine park or are likely to impact on an Australian marine park	Jadestone IMT Planning Lead	Not applicable, however the following information should be provided: Titleholder's details Time and location of the incident (including name of marine park likely to be affected) Proposed OPEP response arrangements Details of the relevant IMT contact person.

Agency / Authority	Notification Type and Timing	Legislation / Guidance	Reporting Requirements	Responsibility	Forms
Australian Fisheries Management Authority (AFMA)	Verbal phone call notification within 24 hours of incident		Fisheries within the EMBA Consider a courtesy call if not in exposure zone	Jadestone IMT Planning Lead	N/A
If spill is heading towards Northern Territory Waters					
NT Regional Harbourmaster	Verbal notification Follow up with POLREP as soon as practicable after verbal notification	Northern Territory Oil Spill Contingency Plan. As per Territory legislation (i.e. *Marine Pollution Act 1999*)	All actual or impending spills in Darwin Harbour waters, regardless of source or quantity	Notification by IMT Planning Section Chief (or delegate)	POLREPs to be emailed to rhm@nt.gov.au (Regional Harbourmaster) Instructions for submitting POLREPs (including a POLREP Template) are provided on the NT Government webpage: https://nt.gov.au/marine/marine-safety/report-marine-pollution
DEPWS (Pollution Response Hotline; Environmental Operations) Territory Emergency Controller (NT Police Commissioner or Delegate)	Verbal notification as soon as practicable Written report to be provided as soon as practicable after the incident, unless otherwise specified by the Minister	Northern Territory Oil Spill Contingency Plan. As per Territory legislation (i.e. *Marine Pollution Act 1999*)	All actual or impending spills in NT waters Notify if spill has the potential to impact wildlife in Territory waters (to activate the Oiled Wildlife Coordinator).	Notification by IMT Planning Section Chief (or delegate)	Marine Pollution Reports (POLREPs) are to be emailed to pollution@nt.gov.au (Environmental Operations) Instructions for submitting POLREPs (including a POLREP Template) are provided on the NT Government web page : https://nt.gov.au/marine/marine-safety/report-marine-pollution https://ntepa.nt.gov.au/make-a-report
DEPWS (Chief Executive Officer)	Verbal notification as soon as practicable (communicated via	*Environmental Protection Act 2019*	An incident causes or threatens material environmental harm or	Notification by IMT Planning	N/A

Agency / Authority	Notification Type and Timing	Legislation / Guidance	Reporting Requirements	Responsibility	Forms
	DEPWS Environmental Operations Team)		significant environmental harm.	Section Chief (or delegate)	
NT Department of Primary Industry and Fisheries (DPIF)	Verbal notification, timing not specified	Not applicable	Fisheries within the EMBA Consider a courtesy call if not in exposure zone	Notification by Planning Section Chief (or delegate)	Not applicable
If spill is heading towards international waters					
Department for Foreign Affairs and Trade (DFAT) (24-hour consular emergency centre)	Verbal phone call notification within 8 hours, if the spill is likely to extend into international waters Follow up with email outlining details of incident	NP–GUI–007: National Plan coordination of international incidents: notification arrangements guidance (AMSA, 2017b)	Notify DFAT that a spill has occurred and is likely to extend into international waters Inform DFAT of the measures being undertaken to manage the spill NOPSEMA, DISR and DFAT will form an inter-agency panel; the Australian Government Control Crisis Centre	Notification by Planning Section Chief (or delegate)	Email details of incident to globalwatchoffice@dfat.gov.au

9. OPERATIONAL SIMA

An Operational SIMA is an iterative process that is used to help guide the preparation of IAPs during a response, so that most effective combination of response strategies with the least detrimental environmental impacts can be identified, documented and executed.

An outline of an Operational SIMA process is provided in Figure 4-1 and considerations to help refine the Operational SIMA are provided in Table 9-1. Real-time data from monitor and evaluate and operational monitoring activities will be incorporated into the Operational SIMA, so that the IMT can adjust the response according to the effectiveness of the strategies and tactics that occurred during each operational period.

Following implementation of the initial (first strike) response actions (Table A-1 and Table A-2), the Strategic SIMA and evaluation of response strategies (Table 4-5) will form the basis for the initial Operational SIMA.

The initial Operational SIMA will be a priority action for the Planning Section once they are activated but may be based on limited information. However, the overall response effort should not be delayed due to a lack of some information. The initial Operational SIMA can be revised when more information becomes available.

The Planning Section is responsible for completing the Operational SIMA and to determine if outputs from the Strategic SIMA are still appropriate. The Operational SIMA should be revised during each new Operational Period and should incorporate all relevant monitor and evaluate data (Section 10), weather and ocean conditions, and operational monitoring data (Section 14.1) and should be used to inform and refine the IAPs. As part of the assessment, the Planning Section will need to consider the potential impacts that each of the suitable response strategies may on the environmental values of the receptors at risk of contact from the spill, noting that response strategies are not used in isolation.

Table 9-1: Operational SIMA Considerations

Response Strategy	Considerations
Monitor and evaluate (and components of operational monitoring)	• Which monitor and evaluate tactics will provide reliable and accurate data for the individual spill? • What sensitive receptors are in the current or anticipated trajectory? • What is the assessed volume and size of the spill? • Is the product weathering as anticipated? • What data is being returned from operational monitoring and how can this be used to aid decision making? • How do the response options and tactics seem to be influencing the spill?
Oiled wildlife response	• Is there adequate monitoring for wildlife, taking into consideration temporal and spatial species-specific considerations? • Are known species breeding or nesting? • What level of wildlife impact has occurred or is expected to occur? • What wildlife response strategies are feasible and safe?

10. MONITOR AND EVALUATE STRATEGY

10.1 Initiation and Termination Criteria

Environmental Performance Objective	To acquire and maintain situational awareness and assess the effectiveness of response options during a spill event to inform IMT decision making.	
Applicable Hydrocarbons	MGO/MDO	✓ (1)
Initiation Criteria		
Tracking buoy	Immediately once an oil spill is confirmed	
Oil spill trajectory modelling	Immediately once Level 2/3 oil spill is confirmed	
Visual surveillance (aerial and vessel surveillance)	Immediately once Level 2/3 oil spill is confirmed	
Satellite surveillance	Immediately once Level 2/3 oil spill is confirmed	
Termination Criteria		
Tracking buoy	Tracking buoy is no longer required to inform response planning.	
Oil spill trajectory modelling	Spill fate modelling will continue for 24 hours after the source is under control and a surface sheen is no longer observable. Specifically, a 'silvery/grey' sheen, as defined by the Bonn Agreement Oil Appearance Code, is no longer observable; or Until no longer beneficial to predict spill trajectory and concentration; or As directed by the relevant Control Agency.	
Visual surveillance (aerial and vessel surveillance)	When the spill is no longer visible to surveillance personnel. Specifically, a 'silvery/grey' sheen, as defined by the Bonn Agreement Oil Appearance Code, is no longer observable; or As advised by relevant Control Agency.	
Satellite surveillance	Satellite monitoring will continue until no further benefit is achieved from continuing; or As advised by relevant Control Agency.	

10.2 Overview

Monitor and evaluate involves the collection and evaluation of information to provide and maintain situational awareness in the event of a spill. Monitor and evaluate activities should be conducted throughout the spill response, as the data obtained provides the IMT with ongoing information on the spill's location, movement and extent, and verifies the outputs of oil spill trajectory modelling. Visual observations are important for validating sensitive receptors at risk of impact from the spill and the effectiveness of spill response operations. Monitor and evaluate data should be used by the IMT when updating response (operational) SIMAs and in the development of IAPs.

The monitor and evaluate response strategy includes a range of tactics which may be suitable for the spill scenarios covered by this OPEP. The relevance and suitability of the following tactics will need to be considered when preparing the Operational SIMA for individual spills.

- Deployment of tracking buoy(s) – requires a buoy to be deployed to the water at the leading edge of the spill to track the movement of the spill.
- Oil spill trajectory modelling – uses computer modelling (e.g. SIMAP) to estimate the movement, fate and weathering of spills.

- Visual observation (via aerial and/or vessel surveillance) – requires trained observers to identify and characterise spills. Survey platforms typically include aircraft and/or vessels. Is also used to ground truth oil spill trajectory modelling and monitor the effectiveness of response options.
- Satellite surveillance – uses satellite technology to identify and track oil spills.

10.3 Implementation Guide

Table 10-1 provides guidance to the IMT on the actions and responsibilities that should be considered when implementing this response strategy.

The On-Scene Commander and/or IMT Leader of the designated Control Agency is ultimately responsible for implementing the response, and may therefore determine that some tasks be varied, should not be implemented or be reassigned.

Table 10-1: Implementation Guidance – Monitoring, Evaluation and Surveillance

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
Tracking buoy/s					
Initial actions	On Scene Commander	Direct personnel to deploy buoy from the facility or vessel.	Note deployment details, including serial number of the deployed tracking buoy, and weather conditions in incident log. Buoy should be deployed as close as possible to the leading edge of the spill (personnel and vessel safety is priority and must be considered by Vessel Master prior to selecting this tactic).	Deploy within one hour of being notified of spill.	☐
	On Scene Commander	Inform IMT that buoy has been deployed and provide IMT with current weather conditions.	-	-	☐
	Planning Lead	Verify deployment of tracking buoy using tracking buoy login details.	Tracking buoy login details held in Jadestone's IMT Portal.	-	☐
	Planning Lead	Ensure tracking buoy location is added to the Common Operating Picture/Status Boards.	-	-	☐
	Planning Lead	Ensure deployment of tracking buoy is captured in Incident Log.	-	-	☐
Ongoing actions	Planning Lead	Use tracking buoy data to regularly update Common Operating Picture/Status Boards in IMT.	-	-	☐
	Planning Lead	Provide tracking buoy data to spill trajectory provider (RPS) to improve the accuracy of spill model.	Provide to RPS with other operational monitoring data as it becomes available, but as a minimum at the end of each operational period.	-	☐
	Planning Lead	Consider deployment of additional tracking buoys.	Liaise with On Scene Commander to determine requirements for additional buoys.	-	☐

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
Oil spill trajectory modelling (OSTM)					
Initial actions	Planning Lead	Contact AMOSC and/or RPS Group Duty Manager to execute OSTM service contract and commence trajectory modelling.	-	Activate within 4 hours of IMT being convened for a Level 2/3 spill notification	☐
	Planning Lead	Complete and submit the hydrocarbon spill modelling request form to RPS Group Duty Manager (if required). Call RPS and confirm receipt of hydrocarbon spill modelling request form.	Note actions in incident log.	Modelling to be undertaken within 2–4 hours of the request being sent to RPS Group, then every operational day during the spill response.	☐
	Planning Lead	Update incident log with request for OSTM and estimated time of delivery.	-	-	☐
Ongoing actions	Planning Lead	Request RPS to provide daily trajectory modelling, plus three day forecast outputs throughout the duration of the response. Integrate data into Common Operating Picture/Status Boards.	-	-	☐
	Planning Lead	Provide available data from other monitor and evaluate activities (i.e. visual surveillance, satellite data) and operational monitoring (where available) to RPS at the end of each operational period, to improve spill trajectory model accuracy.	-	-	☐
Visual surveillance (if selected)					
Aerial surveillance Note: Flights will only take place during daylight under visual flight rules.					
Initial actions	Operations Lead	Contact AMOSC to commence deployment of aerial surveillance and trained aerial observers.	Trained observers should be familiar with the Bonn Agreement Aerial Operations Handbook (Part III) (Bonn Agreement, 2016). A Visual Surveillance Observation Log template is provided in Appendix D.	Within two hours of initial AMOSC activation	☐

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
		Note: It is possible that the initial surveillance flight will not include a trained aerial surveillance observer, as they may take up to 48 hours to deploy. Initial flights can be conducted using a standard crew and initial surveillance should not be delayed waiting for trained personnel. Ensure all safety requirements are met prior to deployment.	Trained aerial observers are available from AMOSC (24 hours mobilisation time), AMSA National Response Team (via the National Plan) and through mutual aid arrangements from operators with trained staff.		
	Logistics Lead Operations Lead	Obtain approval from IMT Leader to initiate aerial surveillance activities, and then contact aviation provider confirm availability of aerial surveillance platform to conduct initial surveillance flight.	If an aviation asset is available near spill location, utilise this where possible to gather as much information about the spill. If aviation asset is not available at or near spill location, IMT is to seek available resources through existing contractual arrangements. Ensure aviation asset has sufficient endurance to be deployed to surveillance location. There should be an attempt to obtain the following data during initial surveillance: • name of observer, date, time, aircraft type, speed and altitude of aircraft • location of slick or plume (GPS positions, if possible) • spill source • size of the spill, including approximate length and width of the slick or plume • visual appearance of the slick (e.g., colour) • edge description (clear or blurred) • general description (windrows, patches etc.) • wildlife, habitat or other sensitive receptors observed	Completed Visual Surveillance Observation Logs to be sent to IMT within one hour of observations being completed.	☐

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
			• basic metocean conditions (e.g., sea state, wind, current) • photographic/video images		
	Operations Lead	Obtain approval from IMT Leader to commence surveillance flights in the vicinity of the facility.	Operations Section is to assume primary coordination for all flights.	-	☐
	Operations Lead	Once initial flight is complete determine if additional flights are required.	-	-	☐
	Operations Lead	In addition to arranging initial flight, mobilise aircraft and trained observers to the spill location to undertake surveillance activities. Ensure all safety requirements are met.	Aerial platform should be capable of providing the following: • immediate accessibility from Darwin airport/s • capability to fly at 150 feet • sufficient range for deployment to the spill location • provision of aircraft crew for 1 x aircraft and space for at least one trained aerial observer	-	☐
	Operations Lead On Scene Commander	All records to be relayed to Planning Lead when aircraft returns from observation flight.	Visual observations from aircraft have inherent subjectivity due to the effect of the angle of insolation on the surface of the ocean. Optical techniques are also dependent on cloud cover and daylight. Where possible, a verbal report via radio/telephone en-route providing relevant information should be considered if the aircraft has long transits from the spill location to base.	Completed Visual Surveillance Observation Logs to be sent to IMT within one hour of observations being recorded.	☐
	Operations Lead On Scene Commander	Aerial Observers shall note fauna sightings in the Observation Log (Appendix D).	The location and details of each sighting should be recorded with coordinates and a cross-reference to photographic imagery captured.	-	☐

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
Ongoing actions	Planning Lead	Use aerial surveillance data to update Common Operating Picture/Status Boards, incorporating relevant information into the IAP.	-	-	☐
	Operations Lead	Develop a flight schedule for ongoing aerial surveillance.	Frequency of flights should consider information needs of IMT to help maintain the Common Operating Picture and determine ongoing response operations Coordination of all aviation operations is essential. Therefore, flight schedule is to cover all planned aviation operations on a daily basis.	-	☐
Vessel surveillance Note: Vessel-based surveillance is only effective if sea state conditions are calm and the spill is observable.					
Initial actions	Operations Lead	Determine if there are any vessels available to follow spills and aid surveillance activities.	Support vessels may be able to provide surveillance.	-	☐
	Operations Lead	Provide IMT initial report on estimated spill volumes and movement based on visual observation (if possible).	Preliminary observations are intended to provide initial projections of spill trajectory and scale prior to more detailed modelling and surveillance. These observations should be immediately verified by more detailed surveillance. A Visual Surveillance Observation Log template is provided in Appendix D.	Completed Visual Surveillance Observation Logs (Appendix D) to be sent to IMT within one hour of observations being recorded.	☐
Ongoing actions	Operations Lead	If vessel surveillance is feasible, ensure surveillance data is regularly incorporated into the Common Operating Picture.	-	-	☐
Satellite Surveillance (if selected)					
Initial actions	Planning Lead	Notify AMOSC Duty Officer to request initiation of satellite services via KSAT (OSRL subscription available as a secondary option) and provision of daily imagery	-	Request made within 6 hours of IMT being convened.	☐

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
				Access to KSAT Satellite imagery within 60 mins of notification	
	Planning Lead	Combine satellite data with other optical imagery (aerial surveillance, vessel-based observations) to mitigate issues of angle of insolation, thick cloud cover and night	Satellite derived data can be used to broaden aerial survey data in terms of both spatial and temporal scale and provide images	-	☐
Ongoing actions	Planning Lead	Request satellite imagery be provided every 48 hours throughout the duration of the response and integrate data into Common Operating Picture/Situation Boards	-	-	☐
General					
Ongoing actions	Planning Lead Environment Unit Lead	Use monitor and evaluate data to periodically reassess the spill and modify the response (through the IAP), as required	Incorporate relevant information into Operational SIMA	-	☐

10.4 Resource Capability

Table 10-2 provides a list of resources that may be used to implement this strategy.

Table 10-2: Resource Capability – Monitoring, Evaluation and Surveillance Strategy

Resources	Source	Quantity Available	Location	Mobilisation Timeframe
Tracking buoys	Jadestone	3	Montara MODU, in-field support vessels	Within one hour of spill notification
	AMOSC	4 4	Fremantle Geelong	24-48 hours
OSTM	RPS via AMOSC Contract	Minimum of 1 model per day	Perth and Brisbane – digital	2–4 hours from activation of OSTM
Aerial surveillance aircraft	Jadestone contracted aviation provider	2 x contracted (1 x primary + 1 x backup) + additional as required	Darwin	Spill surveillance initiated within <10 hours (daylight dependent) of IMT being convened
Aerial surveillance personnel	AMOSC staff and Industry Mutual Aid personnel	5 x AMOSC staff Additional trained Industry Mutual Aid personnel	Perth, Geelong and regional WA	<24–48 hours
Unmanned Aerial Surveillance (UAV) drones and pilots	AMOSC OSRL – Third Party UAV provider	1 x pilot and UAV 2 x qualified remote pilots and UAVs, however response is on best endeavour	Geelong Perth and regional WA	<48 hours OSRL – depending on the port of departure, one to two days if within Australia
Surveillance vessels	Jadestone contracted vessel providers	Availability dependent upon Jadestone and vessel provider activities.	Vessels mobilised from Darwin or offshore location. Locations verified through AIS Vessel Tracking Software.	Vessel surveillance initiated within 24 hours of request from IMT
Satellite surveillance	KSAT – activated through AMOSC MDA – activated through OSRL	Dependent upon overpass frequency (TBC on activation)	Digital	Data available within 24 hours, then every 6–24 hours thereafter depending on satellite positions.

10.5 Environmental Performance

Table 10-3 lists the environmental performance standards and measurement criteria for this strategy.

Table 10-3: Environmental Performance Standards and Measurement Criteria – Monitoring, Evaluation and Surveillance

No.	Performance Standard	Measurement Criteria	Responsibility
Response Preparedness			
EPS06	Maintain contracts with third-party providers to provide access to suitably qualified and competent personnel and equipment to assist in the implementation of monitor and evaluate tactics	AMOSC Master Services Agreement	Emergency Response Lead
		OSRL Service Level Agreement	
		Access to National Plan resources through AMSA	
		Contract is maintained which enables access to tracking buoy services	
		Aviation and vessel contracts in place for the duration of the activity	
EPS07	Tracking buoy available and maintained according to manufacturer specifications for duration of the activity	Records demonstrate that tracking buoys are available and maintained according to manufacturer specifications for the duration of the activity	IMT Leader
Response Implementation (only required in the event of a spill)			
EPS08	Deploy tracking buoy close to leading edge of spill (providing it is safe to do so) within 1 hour of On Scene Commander being made aware of the spill	Records indicate that tracking buoy deployed close to leading edge of spill within 1 hour of On Scene Commander being made aware of the spill	IMT Leader
EPS9	Provide available data from monitor and evaluate activities to oil spill trajectory modelling provider at the end of each operational period to help improve spill model accuracy	Records indicate that at the end of each operational period available data from monitor and evaluate activities was submitted to oil spill trajectory modelling provider to help improve spill model accuracy	IMT Leader
EPS10	Completed Visual Surveillance Observation Logs to be sent to IMT within one hour of observations being recorded.	Records indicate that completed Visual Surveillance Observation Logs sent to IMT within one hour of observations being completed.	IMT Leader
EPS11	Available monitoring data incorporated into the Common Operating Picture and Operational SIMA at the end of each operational period to aid in response decision making	Incident Log shows available monitoring data incorporated into Common Operating Picture and Operational SIMA at the end of each operational period	IMT Leader

No.	Performance Standard	Measurement Criteria	Responsibility
EPS12	Response operations conducted during daylight hours only	Incident Log	IMT Leader
EPS13	Response vessels stand-off at night with lighting required for safety only	Incident Log	IMT Leader

11. SOURCE CONTROL

11.1 Initiation and Termination Criteria

Environmental Performance Objective	To minimise the total volume of spilled oil into the marine environment	
Applicable Hydrocarbons	MGO/MDO	✓ (1)
Initiation Criteria		
Vessel collision	Notification of a spill from a vessel	
Termination Criteria		
Vessel collision	When release of hydrocarbons into the marine environment has ceased and the workplace environment is deemed environmentally safe and free of hydrocarbons	

11.2 Overview

11.2.1 Vessel Collision / Fuel Tank Rupture

This section covers vessel collision scenarios that may result in the release of all or part of a storage tank or fuel tank contents, releasing hydrocarbons to the marine environment. The hydrocarbon type could be:

- MDO/MGO from a support vessel (400 m^3)

In the event hydrocarbon is released from a support vessel due to vessel collision, the following activities are to be immediately implemented (subject to safety considerations of all on-board at the time of incident response):

- Reduce the head of cargo by dropping or pumping the tank contents into an empty or slack tank;
- Consider pumping water into the leaking tank to create a water cushion to prevent further cargo loss;
- If the affected tank is not easily identified, reduce the level of the cargo in the tanks in the vicinity of the suspected area if stability of the vessel will not be compromised;
- Attempt repair and plugging of hole or rupture;
- Evaluate the transfer of cargo to other vessels; and/or
- Trimming or lightening the vessel to avoid further damage to intact tanks.

Unplanned release of hydrocarbons from support vessels to the marine environment is managed by the Vessel Master in accordance with MARPOL 73/78 Annex 1- Prevention of Pollution by Oil under the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*.

11.3 Implementation Guide

Table 11-1 provides guidance to the IMT on the actions and responsibilities that should be considered when implementing this response strategy.

The On-Scene Commander and/or IMT Leader is ultimately responsible for implementing the response, and may therefore determine that some tasks be varied, should not be implemented or be reassigned.

Table 11-1: Implementation Guidance – Source Control

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
Fuel tank rupture (vessel collision)					
Initial actions	Vessel Master	Refer to the individual vessel's SOPEP and the Montara Incident Response Plan (MV-70-PLN-F-00001)	The following activities would be evaluated immediately for implementation, providing it is safe to do so and if they are consistent with the vessel-specific SOPEP and associated procedures: • For spills involving pumping operations, cease pumping immediately and activate Emergency Shutdown Devices. • Isolate spill (if possible) and prevent spill to the marine environment. • Reduce the head of fuel by dropping or pumping the tank contents into an empty or slack tank. • Consider pumping water into the leaking tank to create a water cushion to prevent further fuel inventory loss. • If the affected tank is not easily identified, reduce the level of the fuel in the tanks in the vicinity of the suspected area if stability of the vessel will not be compromised. • Evaluate the transfer of fuel to other vessels. • Attempt repair and plugging of hole or rupture. • Recover spilt hydrocarbons on Facility using spill kits. • Isolate and repair damaged equipment.	-	☐

11.4 Environmental Performance

Table 11-2 lists the environmental performance standards and measurement criteria for this strategy.

Table 11-2: Environmental Performance Standards and Measurement Criteria – Source Control

No.	Performance Standard	Measurement Criteria	Responsibility
Response Preparedness			
EPS14	Montara Incident Response Plan (MV-70-PLN-F-00001) is reviewed annually	Records demonstrate that the Montara Incident Response Plan (MV-70-PLN-F-00001) has been reviewed annually	Emergency Response Lead
EPS15	Vessels associated with the activity have a SOPEP or Shipboard Marine Pollution Emergency Plan (SMPEP) that outlines steps taken to combat spills	Audit records and inspection records demonstrate that vessels have a SOPEP or SMPEP	Emergency Response Lead
Response Implementation (only required in the event of a spill)			
EPS16	Montara Incident Response Plan (MV-70-PLN-F-00001) is activated as soon as possible from when OSC is made aware of the incident	Incident log	IMT Leader
EPS17	Actions to control spill associated with a vessel incident followed in accordance with the vessel-specific SOPEP	Records demonstrate that actions to control spill associated with a vessel incident followed in accordance with the vessel-specific SOPEP	IMT Leader

12. NATURAL RECOVERY

Natural recovery is the process of letting hydrocarbons degrade naturally in the environment, either offshore or onshore. This section addresses offshore natural recovery, including degradation on or in the water column. There are no initiation or termination criteria, nor capability required to implement it apart from supporting strategies such as monitor and evaluate and operational monitoring.

Oil on the ocean disperses and breaks up via several processes. Natural processes acting on the oil such as evaporation, dissolution, dispersion into the water column, biodegradation and photo oxidisation reduce the volume of oil over time. Evaporation can be the most important mechanism to reduce the volume of oil, especially in the short term. Approximately 60–80% of a MGO/MDO spill will generally evaporate over the first two days, depending upon the prevailing conditions and spill volume.

Whilst offshore natural recovery involves no direct response activities to mitigate the spill, it may be an appropriate response strategy to compliment other intervention-based response strategies; or as a primary response strategy if other strategies are likely to cause a greater impact than leaving the oil to degrade naturally. It may also be the only viable response strategy during inclement weather (e.g. tropical cyclones), as responding could place personnel at risk.

Table 12-1 provides guidance on when natural recovery may be a suitable response option. There is no implementation guide provided for this response option, as no direct tasks are required. However, if natural recovery is selected as a suitable response strategy, the Operational SIMA would need to confirm that natural recovery remains a suitable response strategy throughout the spill response.

Table 12-1: Recommendations – Natural Recovery

Recommended	Not Recommended
• For light, non-persistent hydrocarbons, such as ITOPF Group 1–2 hydrocarbons (e.g. MGO/MDO, condensate, hydraulic oil) • Product is weathering rapidly due to environmental conditions (e.g. high energy coastline, wave action) • Product is too thin for effective use of dispersants or containment and recovery • If responding during inclement weather conditions would place response personnel at risk	• For persistent hydrocarbons, such as ITOPF Group 3–4 hydrocarbons (Crude oil, Intermediate Fuel Oil, Heavy Fuel Oil) • Environmental conditions are not favourable for rapid degradation (e.g. calm seas) • Slick is continuous enough and thick enough to treat with dispersants or via containment and recovery methods

13. OILED WILDLIFE RESPONSE STRATEGY

13.1 Initiation and Termination Criteria

Environmental Performance Objective	Implement oiled wildlife response in accordance with the WA Oiled Wildlife Response Plan and Manual to prevent or reduce impacts, and to humanely treat, house, and release or euthanise wildlife.	
Applicable Hydrocarbons	MGO/MDO	✓ (1)
Initiation Criteria		
• Monitor and evaluate activities shows that wildlife has been contacted or is at risk of contact from hydrocarbons		
Termination Criteria		
• Operational SIMA has determined that this strategy is unlikely to result in an overall benefit to the affected shoreline/s; and • Control Agency decides to terminate the response strategy.		

13.2 Overview

The short-term effects of hydrocarbons on wildlife may be direct such as the external impacts from coating or internal effects from ingestion and inhalation. OWR includes wildlife surveillance/reconnaissance, wildlife hazing, pre-emptive capture and the capture, cleaning, treatment, rehabilitation, release and post-release monitoring 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.

Long-term effects of a spill on wildlife may be associated with loss/degradation of habitat, impacts to food sources, and impacts to reproduction. An assessment of such impacts is covered in Sections 7.6 of the EP and post-spill via scientific monitoring (Section 14.1).

For a petroleum activity spill in Commonwealth waters, Jadestone act as the Control Agency and will be responsible for the entire wildlife response. The WA Oiled Wildlife Response Plan (WAOWRP) (DBCA, 2022a) and accompanying WA Oiled Wildlife Response Manual (WA OWR Manual) (DBCA, 2022b) will be referred to for guidance for coordinating an OWR when Jadestone is the Control Agency.

For spills in NT waters, Jadestone will conduct the initial first-strike response for wildlife and continue to manage those operations until the relevant NT Control Agency is activated, and formal hand over occurs. Following formal handover, Jadestone will function as a support organisation for the OWR and will be expected to continue to provide planning and resources as required.

13.3 Implementation Guide

The OWR first strike plan (initial 48 hours) (Table 13-1) provides guidance to the IMT and Wildlife Division Co-ordinator on the tasks and responsibilities that should be considered when implementing an OWR when Jadestone is the Control Agency or prior to formal hand over to the relevant Control Agency.

The OWR first strike plan focuses on notifications, wildlife reconnaissance and response preparation. Preventative actions, such as hazing, along with capture, intake and treatment require a higher degree of planning, approval (licences) and skills and will be planned for and carried out under the IAP Wildlife Subplan.

Table 13-1: Implementation Guidance – Oiled Wildlife Response

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
First strike plan (0–48 hours): situational awareness, notifications and activation of Wildlife Division					
Initial actions	Operational monitoring personnel	Situational Awareness Personnel conducting operational monitoring activities shall report wildlife sightings in or near the spill trajectory (including those contacted with hydrocarbons or at risk of contact) and report them to the IMT	Record all reports of wildlife potentially impacted and impacted by spill. Record the following: • Time / date • Location / GPS coordinates • Access to location • Number of individuals (estimate) • Species (if known) • Condition of impacted animals (if available) • Take photographs of the affected wildlife and / or affected surrounds, if possible	<2 hours of becoming aware of potential impacts to wildlife	☐
	On Scene Commander	Inform the IMT if wildlife has been contacted by hydrocarbon or are at risk of contact	-	-	☐
	Planning Lead	External Notifications (also covered in Table 8-1) If wildlife has been contacted by hydrocarbon or are at risk of contact (based on monitor and evaluate outputs): • If in Territory waters notify DEPWS (Pollution Response Hotline, Environmental Operations) • Notify DCCEEW if there is a risk of death or injury to a protected species (including Matters of National Environmental Significance [MNES]).	The NT IMT is the Control Agency in Territory waters.	-	☐

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
	Planning Lead	If wildlife has been contacted by hydrocarbon or are at risk of contact (based on monitor and evaluate outputs): • Notify the AMOSC Duty Manager (who will then activate the AMOSC OWA)	Obtain approval from the IMT Leader before activating AMOSC OWA. Under the WAOWRP arrangement, AMOSC may request assistance from each other if their internal pool of trained personnel or expertise for wildlife response has been exhausted.	-	☐
	Operations Lead	Activate Wildlife Division If wildlife has been contacted by oil or are at risk of contact (based on monitor and evaluate outputs) activate the oiled wildlife response sub-division within Operations by appointing a Wildlife Division Co-ordinator with the support of the IMT Leader	-	<24 hours of becoming aware of potential impacts to wildlife	☐
ACTIONS BELOW ARE INDICATIVE ONLY AND ARE AT THE FINAL DETERMINATION OF THE CONTROL AGENCY					

Initial actions	Wildlife Division Co-ordinator	Determine if targeted wildlife reconnaissance (beyond operational monitoring/ monitor and evaluate) is required (situation dependent)	Determine the requirement for targeted wildlife reconnaissance and associated personnel and equipment requirements.
			Refer to the following guidance documents for further information on wildlife reconnaissance:
			• WA OWR Manual:
			  ○ P1 OWR Procedure: Phase 1 Wildlife Reconnaissance
			  ○ G-1: OWR Strategies by Fauna Group
			• Forms:
			  ○ F1-1 Oiled Wildlife Reconnaissance: Observation Record
			Note
			Any interactions involving nationally listed threatened fauna may require approval from DCCEEW as interactions
				<48 hours of becoming aware of potential impacts to wildlife	☐

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
			with such species is controlled by the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* and the Environment Protection and Biodiversity Conservation Regulations 2000.		
	Wildlife Division Co-ordinator	Determine if the establishment of an OWR field station is required (situation dependent) • Personnel and equipment requirements	OWR Field Station Consider possible location and logistical requirements for setting up a field station Refer to the following guidance documents for further information on setting up an OWR Field Station: • WA OWR Manual: ○ P4 OWR Procedure: Phase 4 Wildlife Field Processing • WAOWRP: ○ Appendix A – Equipment		☐
	Wildlife Division Co-ordinator	Handover control to External Control Agency	Prepare to hand over control of the OWR to the relevant control agency if a protracted response is likely. Continue to provide updates on progress and support the development of the IAP Wildlife Subplan to ensure that site considerations and constraints are adequately captured and considered in the ongoing response planning.		☐
Ongoing actions	Wildlife Division Co-ordinator Logistics	Mobilise required resources	-	-	☐

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
BEYOND FIRST STRIKE AND IF FORMAL HANDOVER HAS NOT YET OCCURRED (ACTIONS BELOW ARE INDICATIVE ONLY AND ARE AT THE FINAL DETERMINATION OF THE CONTROL AGENCY)					
Ongoing actions	Wildlife Division Co-ordinator Planning Lead	Prepare IAP Wildlife Subplan	Initial IAP Wildlife Subplan should • Assess the situation and determine the level of wildlife impact (low / medium / high) • The AMOSC OWA should be consulted when determining the initial magnitude of impact • Determine if there are spill activities / tactics that may benefit or adversely impact the OWR • Determine wildlife response priorities • Determine if any deterrence / hazing measures may be applicable (i.e. likely to result in a net benefit) followed by the development of a Preventative Actions Plan • Anticipate number of oiled wildlife requiring rescue and development of a Capture Plan • Bridge to the operational phases, procedures and guidelines in the WA OWR Manual (as outlined in Table 13-2) and relevant to the scale of the OWR	-	☐
	Wildlife Division Co-ordinator Planning Lead	Based on the IAP Wildlife Subplan, develop a list of equipment and resources that will be required to implement the plan and provide it to the Logistics Lead	-	-	☐
	Logistics	Mobilise equipment and personnel to required location(s)	Refer to Table 13-5 for available equipment and personnel	-	☐

Table 13-2: OWR IAP Operational Phases and Corresponding Section of the WA OWR Manual

IAP Wildlife Operational Phases	Relevant Procedures, Guideline, Appendices and Forms of the WA OWR Manual
Reconnaissance (Phase 1)	P1 OWR Procedure: Phase 1 Wildlife Reconnaissance Forms: • F1-1 Oiled Wildlife Reconnaissance: Observation Record
Preventative (Phase 2)	P2 OWR Procedure: Phase 2: Preventative Actions Forms: • F2-1 oiled Wildlife Preventative Actions: Observation Record
Search and rescue (Phase 3)	P3 OWR Procedure: Phase 3 Wildlife Rescue A-6 Cleaning and Disinfection Forms and tags: • F3-1 Oiled Wildlife Rescue- Collection Record • L3-1 Oiled Wildlife Rescue- Collection Tag
Field processing and transport (Phase 4)	P4 OWR Procedure: Phase 4 Wildlife Field Processing G4-: OWR Euthanasia Plan A-6 Cleaning and Disinfection Forms: • F4-1 Individual Animal Chain of Custody Record • F4-2 Oiled Wildlife Admission Log • F4-3 Oiled Wildlife Live Animal Assessment • F4-4 Animal Transport Log
Setting up a primary care facility	G-6: Setting up a Primary Care Facility
Intake- processing/admission, triage, stabilisation and pre-wash care (Phase 5)	P5i OWR Procedure: Phase 5 Intake- Admissions and Live Animal Processing G4-: OWR Euthanasia A-6 Cleaning and Disinfection Forms: • L5-1 Wildlife Intake – Oil Sample Evidence • L5-2 Wildlife Intake – Photo Evidence Live Animal • L5-5 Wildlife Intake – Photo Memory Card Evidence
Carcass collection, necropsy storage, carcass sampling	P5ii OWR Procedure: Phase 5 Intake- Dead Animal Processing A-6 Cleaning and Disinfection Forms: • F5-1 Wildlife Intake – Oil Sample Chain of Custody • F5-2a Wildlife Intake – Necropsy Form – Birds • F5-2b Wildlife Intake – Necropsy Form – Sea Turtles • F5-2d Wildlife Intake – Necropsy Form – Cetaceans and Dugongs • F5-2e Wildlife Intake – Necropsy Form – Other Reptiles • F5-2f Wildlife Intake – Necropsy Form – Other Mammals • L5-3 Wildlife Intake – Photo Evidence – Dead Animal • L5-4 Wildlife Intake – Processing – Animal Tissue Sample • L5-5 Wildlife Intake – Photo Memory Card Evidence

IAP Wildlife Operational Phases	Relevant Procedures, Guideline, Appendices and Forms of the WA OWR Manual
Cleaning (Phase 6)	P6 OWR Procedure: Phase 6 Wildlife Cleaning A-6 Cleaning and Disinfection Form: • F6-1 Oiled Wildlife Cleaning Room Record
Rehabilitation (Phase 7)	P7 OWR Procedure: Phase 7 Rehabilitation A-6 Cleaning and Disinfection Forms: • F7-1 Oiled Wildlife Rehabilitation Daily Progress Record • F7-2 Oiled Wildlife Rehabilitation – Pool Observation Record • F7-3 Oiled Wildlife Rehabilitation – Waterproofing Record • F7-4 Daily Rounds and Laboratory Record
Release and post-release monitoring (Phase 8)	P8 OWR Procedure: Phase 8 Release
Health and Safety	G1: Workplace Health and Safety G2: Biosecurity in Oiled Wildlife Response A-6 Cleaning and Disinfection Other references: National Wildlife Biosecurity Guidelines
OWR termination and demobilisation	N/A

13.4 Resourcing Requirements

13.4.1 Magnitude of wildlife impact

Given the distribution and behaviour of wildlife in the marine environment, a spill which only impacts Commonwealth offshore waters is likely to result in limited opportunities to rescue wildlife. In such instances, continued wildlife reconnaissance for rescue opportunities, carcass recovery, sampling of carcasses that cannot be retrieved and scientific monitoring are more likely to be the focus of response efforts. In contrast, a spill which results in shoreline accumulation is likely to result in far greater wildlife impacts and opportunities to rescue wildlife.

The stochastic modelling for the worst-case spill scenarios for this activity shows that the impacts of the spill will be restricted to Commonwealth offshore waters, with very low probabilities of low threshold concentrations for shoreline and floating oil (Section 4.3).

Table 13-3: Resource Capability – Oiled Wildlife Response

OWR strategy	Equipment/personnel	Location	Mobilisation Timeframe	Consideration
Reconnaissance	Rotary wing aircraft and flight crew	Darwin	Wheels up within 4 hours of activation	Identify any synergies with surveys required for Monitor and Evaluate and Scientific Monitoring activities
	Drones and pilots	Local WA hire companies	48 hours	
	Contracted vessels and vessels of opportunity	Darwin, NWS locations	Varies subject to location / availability	
Preventative actions	2 x AMOSC Wildlife fauna hazing and exclusion kits 3 x AMOSC Wildlife fauna hazing and capture kits 1 x AMOSC Breco buoy	1 x Fremantle, 1 x Geelong 3 x Fremantle 1 x Fremantle	48 hours	Mainly effective for bird species
Rescue and field processing	4 x AMOSC Oiled Fauna Kits (basic medical supplies, cleaning/rehab, PPE)	1 x Fremantle, 1 x Exmouth, 1 x Broome, 1 x Geelong	48 hours	Wildlife handling and first aid should only be done by persons with appropriate skills and experience or under the direction of NT Control Agency A Platform Supply Vessel (PSV) could be used for field processing in remote locations (benefits associated with temperature regulation and access to heated water and electricity)
	50% of OSRL OWR response packages (Wildlife Search and Rescue kits / Cleaning and Rehab. kits (including field first aid)	5 x Singapore, 2 x Bahrain, 7 x UK, 5 x Fort Lauderdale	Location dependent	

OWR strategy	Equipment/personnel	Location	Mobilisation Timeframe	Consideration
Transport	Contracted vessels and vessels of opportunity	Darwin and other regional locations in WA and Northern Territory	Subject to availability and location	-
Primary care facility	OWR container/mobile washing facility 2 x AMOSC 4 x AMSA	AMOSC – 1 x Fremantle, 1 x Geelong AMSA 1 x Darwin, 1 x Dampier, 1 x Devonport, 1 x Townsville	Location dependent	-
	AMOSC call off contract with DWYERTech NZ – a facilities management group	New Zealand	Availability within 24 hours of call-off	-
Personnel	1x AMOSC Oiled Wildlife Advisor	Perth, Australia	48 hours	-
	60 x AMOSC OWR Strike Team Members	Australia wide	48 hours	
	AMOSC MOU with Phillip Island National Park (PINP) (best-endeavours availability)	Victoria, Australia	Best-endeavour availability	
	Jadestone labour hire arrangements for access to non-technical personnel	Australia wide	Subject to availability (72–96 hours)	Non-technical personnel would receive an induction, on-the-job training and work under the supervision of an experienced supervisor

OWR strategy	Equipment/personnel	Location	Mobilisation Timeframe	Consideration
	Via OSRL Access to 24/7 technical advice (remote or on-site) from the Sea Alarm Foundation Access to OWR assessment service from the Global Oiled Wildlife Response Service (GOWRS) consisting of a ready-to-deploy team of 4 specialists in Operations/Planning, Field & Capture, Rehab & Facilities, Vet/Incident-specifics.	Belgium Various locations in northern and southern hemisphere		Sea Alarm: Upon notification able to provide remote advice and option to mobilise a Sea Alarm Technical Advisor on-site during an incident GOWRS: Mobilised on a best endeavours basis

13.5 Environmental Performance

Table 13-7 lists the environmental performance standards and measurement criteria for this strategy.

Table 13-4: Environmental Performance Standards and Measurement Criteria – Oiled Wildlife Response

No.	Performance Standard	Measurement Criteria	Responsibility
Response Preparedness			
EPS18	Maintain access to oiled wildlife response equipment and personnel	AMOSC Master Services Agreement	Emergency Response Lead
		OSRL Service Level Agreement	
		Access to National Plan resources through AMSA	
Response Implementation (only required in the event of a spill)			
EPS19	Initiate OWR first strike plan within 12 hours of IMT being convened	Incident Log	IMT Leader
EPS20	OWR undertaken in accordance with the WA Oiled Wildlife Response Plan and the WA Oiled Wildlife Response Manual	Incident Log	IMT Leader
EPS21	Establish OWR structure within IMT within 24 hours of OWR risk being identified	Incident Log	IMT Leader
EPS22	Commence mobilisation of OWR resources within 48 hours of OWR risk being identified	Incident Log	IMT Leader
EPS23	Response operations conducted during daylight hours only	Incident Log	IMT Leader

14. SUPPORT FUNCTIONS

14.1 Operational and Scientific Monitoring

Jadestone has developed a Montara OSM-BIP (TM-70-PLN-I-00007) 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 is aligned to the Joint Industry Operational and Scientific Monitoring Framework (APPEA, 2021) and describes how this Framework applies to Montara activities and spill risks in Australian waters. The Montara OSM-BIP (TM-70-PLN-I-00007) was first submitted with the Montara Operations OPEP (MV-70-PLN-G-00001) and accepted on 11th June 2024. In accordance with Regulation 56 (1) of the OPGGS (E) Regulations, the Montara OSM-BIP (TM-70-PLN-I-00007) provides OSM arrangements for this activity.

The OSM-BIP is structured so that it can provide a flexible framework that can be adapted to individual spill incidents. A series of Operational Monitoring Plans (OMPs) and Scientific Monitoring Plans (SMPs) form part of the Joint Industry Framework and provide detail on monitoring design, standard operating procedures, data management and reporting. Details on personnel, resources, logistics and mobilisation times are outlined in the OSM-BIP. Table 14-1 lists the plans that may be relevant (depending upon whether initiation criteria are met) to Jadestone's Montara 1,2,3 activities and the objective of each monitoring plan.

There are two types of monitoring that would occur following a Level 2–3 spill event:

- Operational Monitoring (OM) – which is undertaken during the course of the spill and includes any physical, chemical and biological assessments which may guide operational decisions such as selecting the appropriate response and mitigation methods and / or to determine when to terminate a response activity. This monitoring is additional to the activities (visual surveillance, tracking buoys, oil spill trajectory modelling and satellite tracking) performed as part of the Monitor and Evaluate Strategy (Section 10). The design of operational monitoring requires judgements to be made about scope, methods, data inputs and outputs that are specific to the individual spill incident, balancing the operational needs of the response with the logistical and time constraints of gathering and processing information. There is a need for information to be collected and processed rapidly to suit response needs, with a lower level of sampling and accuracy needed than for scientific purposes. For details on initiation and termination criteria for OMs refer to the OSM-BIP.
- Scientific Monitoring (SM) – which can extend well beyond the termination of response operations. Scientific monitoring has objectives relating to attributing cause-effect interactions of the spill or associated response with changes to the surrounding environment. The SMs will be conducted on a wider study area, extending beyond the spill footprint, will be more systematic and quantitative and aim to account for natural or sampling variation. For further details on the SMs refer to the OSM-BIP.

Jadestone 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 relevant Monitoring Service Provider.

Table 14-1: Operational and Scientific Monitoring Plans Relevant to Montara 1,2,3 Activities

Monitoring Plan	Objective
Hydrocarbon properties and weathering behaviour at sea	To provide in field information on the hydrocarbon properties, behaviour and weathering of the spilled hydrocarbons to assist in determining suitability of spill response tactics and strategies.
Water quality assessment	To provide a rapid assessment of the presence, type, concentrations and character of hydrocarbons in marine water to assess the extent of spill contact and inform impact predictions for other monitoring plans.
Sediment quality assessment	To provide a rapid assessment of the presence, type, concentrations and character of hydrocarbons in marine sediments to assess the extent of spill contact and inform impact predictions for other monitoring plans.
Rapid marine fauna assessment	To undertake a rapid assessment of marine fauna to understand the species, populations, habitats and geographical locations at greatest risk from potential spill impacts To provide the IMT with information that assists in deciding protection priorities and selecting response options that minimise the potential impact on marine fauna To provide the IMT with information on the effects of response activities on marine fauna Assess and document mortality of fauna during the spill event and response activities Establish the need for scientific monitoring of fauna affected by the spill event and/or response activities.
Scientific Monitoring	
Water quality impact assessment	Detect and monitor the presence, concentration and persistence of hydrocarbons in marine waters following the spill and associated response activities. The specific objectives of this SMP are as follows: • Assess and document the temporal and spatial distribution of hydrocarbons and dispersants in marine waters of sensitive receptors • Consider the potential sources of any identified hydrocarbons • Verify the presence and extent of hydrocarbons (both on water and in water) that may be directly linked to the source of the spill • Assess hydrocarbon/dispersant content of water samples against accepted environmental guidelines or benchmarks to predict potential areas of impact • Provide information that may be used to interpret potential cause and effect drivers for environmental impacts recorded for sensitive receptors monitored under other SMPs.
Sediment quality impact assessment	Detect and monitor the presence, concentration and persistence of hydrocarbons in marine sediments following the spill and associated response activities. The specific objectives of this SMP are as follows:

Monitoring Plan	Objective
	• Assess and document the temporal and spatial distribution of hydrocarbons and dispersants in marine sediments of sensitive receptors • Consider the potential sources of any identified hydrocarbons • Verify the presence and extent of hydrocarbons that may be directly linked to the source of the spill • Assess hydrocarbon content of sediment samples against accepted environmental guidelines or benchmarks to predict potential areas of impact.
Seabirds and shorebirds	Document and quantify shorebird and seabird presence; and any impacts and potential recovery from hydrocarbon exposure and response activities. The objectives are to: • Identify and quantify, if time allows the post-spill/pre-impact presence and status (e.g. foraging and/or nesting activity) of shorebirds and seabirds in the study area • Observe, and if possible quantify and assess, the impacts from exposure of shorebirds and seabirds to hydrocarbons (i.e. post-impact) and to the response activities, including abundance, oiling, mortality, and sub-lethal effects • Identify, quantify and evaluate the post-impact status and if applicable, recovery of key behaviour and breeding activities of shorebirds and seabirds (e.g. foraging and/or nesting activity and reproductive success) over time and with regard to control sites.
Marine mega-fauna assessment – reptiles; whale sharks, dugongs and cetaceans	<u>Reptiles</u> Identify and quantify the status and recovery of marine reptiles, including marine turtles, sea snakes and estuarine crocodiles, related to a hydrocarbon spill and response activities. The objectives are to: • To observe and quantify the presence of marine reptiles (including life stage) within the area affected by hydrocarbons • Where possible, assess and quantify lethal impacts and/or sub-lethal impacts directly related to the hydrocarbon spill or other secondary spill-related impacts (including vessel strike and/or use of dispersants) • Assess the impact of the hydrocarbon spill on nesting turtles, nests, and hatchlings • Understand changes in nesting beach usage by marine turtles following the hydrocarbon spill. <u>Whale sharks, dugongs and cetaceans</u> Identify and quantify the status and recovery of whale sharks, dugongs and cetaceans related to a hydrocarbon spill and response activities. The objectives are to:

Monitoring Plan	Objective
	• Observe and quantify the presence of whale sharks, dugongs and cetaceans within the area that may be affected by hydrocarbons • Where possible, assess and quantify lethal impacts and/or sub-lethal impacts directly related to the hydrocarbon spill or other indirect impacts (including vessel strike and/or use of dispersants and impacts to important habitats) • If applicable, evaluate recovery of key biological activities of impacted species following impacts due to a hydrocarbon spill and undertaking response options.
Benthic habitat assessment	To assess the impact (extent, severity, and persistence) and subsequent recovery of subtidal benthic habitats and associated biological communities in response to a hydrocarbon release and associated response activities. The specific objectives of this SMP are as follows: • Collect quantitative data to determine short-term and long-term (including direct and indirect) impacts of hydrocarbon (and implementation of response options) on benthic habitats and associated biological communities, post-spill and post-response recovery • Monitor the subsequent recovery of benthic habitats and associated biological communities from the impacts of the hydrocarbon release.
Marine fish and elasmobranch assemblages assessment	To assess the impacts to and subsequent recovery of fish assemblages associated with specific benthic habitats (as identified in SMP: Benthic Habitat Assessment) in response to a hydrocarbon release and associated response activities. The specific objectives of this SMP are as follows: • Characterise the status of resident fish populations associated with habitats monitored in SMP: Benthic Habitat Assessment that are exposed/contacted by released hydrocarbons • Quantify any impacts to species (abundance, richness and density) and resident fish population structure (representative functional trophic groups) • Determine and monitor the impact of the released hydrocarbons and potential subsequent recovery to residual demersal fish populations.
Fisheries impact assessment	To monitor potential contamination and tainting of important finfish and shellfish species from commercial, aquaculture and recreational fisheries to evaluate the likelihood that a hydrocarbon spill will have an impact on the fishing and/or aquaculture industry. The specific objectives of this SMP are as follows: • Assess any physiological impacts to important fish and shellfish species and if applicable, seafood quality and safety • Assess targeted fish and shellfish species for hydrocarbon contamination • Provide information that can be used to make inferences on the health of fisheries and the potential magnitude of impacts to fishing industries (commercial, aquaculture and recreational).

Monitoring Plan	Objective
Heritage features assessment	To detect changes in the integrity of significant shipwrecks as a result of a hydrocarbon release and/or associated response activities.
Social impact assessment	To assess the extent, severity and likely persistence of impacts on cultural, commercial, recreational and/or industrial users from a hydrocarbon release and associated response activities. The specific objective of this SMP is as follows: • Determine direct and indirect impacts of a hydrocarbon or chemical spill and associated response activities on cultural, commercial, recreational and/or industrial users and identify areas where monitoring may need to continue for an extended period of time following termination of the response.

14.1.1 Environmental Performance

Table 14-2 lists the environmental performance standards and measurement criteria for the following Environmental Performance Outcome.

Table 14-2: Environmental Performance Standards and Measurement Criteria – Operational and Scientific Monitoring

No.	Performance Standard	Measurement Criteria	Responsibility
Response Preparedness			
EPS24	Maintain contracts with third-party provider/s to provide access to suitably qualified and competent personnel and equipment to assist in the implementation of monitoring	Contract with Monitoring Service Provider/s	Environment Lead
EPS25	Obtain monthly capability reports from Monitoring Service Provider to demonstrate suitable resources are available throughout the activity	Monthly capability reports from Monitoring Service Provider	Environment Lead
EPS26	Annual testing of OSM Monitoring Service Provider standby arrangements and activation process	Exercise records	Emergency Response Lead
EPS27	Biennial review of existing baseline data	Adequacy of existing baseline data reviewed periodically for locations within the Montara OSM-BIP (TM-70-PLN-I-00007) identified as requiring a baseline review	Environment Lead
Response Implementation (only required in the event of a spill)			
EPS28	OMPs and SMPs will be activated in accordance with the initiation criteria provided in Table 9-1 and 9-2 of the Joint Industry OSM Framework (APPEA, 2021)	Incident Action Plan and Incident Log confirm OMPs and SMPs are activated in accordance with the initiation criteria provided in Table 9-1 and 9-2 of the Joint Industry OSM Framework (APPEA, 2021)	IMT Leader
EPS29	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	Incident Action Plan/s	IMT Leader
EPS30	Monitoring to be conducted in accordance with the Montara Operations OSM-BIP	Incident log and monitoring records	IMT Leader

No.	Performance Standard	Measurement Criteria	Responsibility
EPS31	Implementation of operational and scientific monitoring will comply with the Minimum Standards listed in Appendix A of the Joint Industry OSM Framework (APPEA, 2021)	Incident log and monitoring records	IMT Leader
EPS32	Once post-spill SMP monitoring reports are drafted they will be peer reviewed by an expert panel	Monitoring records	IMT Leader
EPS33	OMPs and SMPs will be terminated in accordance with the termination criteria provided in Tables 9-1 and 9-2 of the Joint Industry OSM Framework (APPEA, 2021)	Incident Action Plan and Incident Log confirm OMPs and SMPs are terminated in accordance with the termination criteria provided in Tables 9-1 and 9-2 of the Joint Industry OSM Framework (APPEA, 2021)	IMT Leader

14.2 Waste Management

Waste management is considered a support function to the overall response effort, so has no set objective, initiation or termination criteria. Waste management aims to ensure wastes are handled and disposed of safely and efficiently and prevent contamination of unaffected areas.

The implementation of some spill response strategies will collect and generate waste that will require management, storage, transport and disposal, and may consist of solid and liquid waste.

The type and amount of waste generated during a spill response will vary depending on the spill type/characteristics, volume released, and response strategies implemented. To account for this potential variability, waste management (including handling and capacity) needs to be scalable to allow a continuous response to be maintained.

Waste produced as a result of an oil spill will be managed in accordance with the Jadestone Waste Management Plan – Oil Spill Response Support (JS-70-PR-I-00037), Jadestone HSE requirements, MARPOL 73/78 (as appropriate to vessel class), and relevant Commonwealth and NT regulations.

Where Jadestone is the Control Agency, or at the request of the designated Control Agency, Jadestone will engage its Waste Services Provider to supply waste storage receptacles. The Waste Services Provider will also be requested to finalise its Waste Management Plan to suit the specifics of the spill, which will detail the types and volumes of waste that may be generated, finalise details of waste handling and storage and provide detailed waste disposal plans. The Waste Services Provider will arrange for all personnel, equipment and vehicles to carry out these activities from nominated collection points to licensed waste management facilities. All transport will be undertaken via controlled-waste-licensed vehicles and in accordance with the *Waste Management and Pollution Control Act 1998* (NT).

Table 14-3 provides guidance to the IMT on the actions and responsibilities that should be considered when implementing this response strategy.

The On-Scene Commander and/or IMT Leader of the designated Control Agency is ultimately responsible for implementing the response, and may therefore determine that some tasks be varied, should not be implemented or be reassigned. Information on resource capability for this strategy is shown in Table 14-4.

Table 14-3: Implementation Guidance –Waste Management

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
Initial actions	Logistics Lead	Notify Waste Services Provider of spill and activate services	Refer to the Incident Management Contact List for contact details	Within 12 hours of IMT identifying a requirements for waste storage, collection and/or transport	☐
	Planning Lead	Based on available monitor and evaluate data and response strategies that are likely to be implemented, inform the Waste Services Provider of the type and volumes of initial waste storage requirements to support operations	It is better to overestimate volumes and scale back resources then to underestimate waste volumes	-	☐
	Planning Lead	Request Waste Services Provider to finalise Waste Management Plan to suit the specifics of the incident	All waste stored or transferred should be documented in Waste Management Plan, including details of the volumes and nature of the waste, receiver, staging areas, destination of the waste and records of all regulatory approvals	-	☐
	Environment Lead	Ensure Operational SIMA considers the impact of waste management activities in environmentally sensitive locations	Appropriate controls or avoidance of sensitive locations should be incorporated into Waste Management Plan	-	☐
Ongoing actions	Planning Lead	Ensure Waste Services Provider tracks the following information: • waste movements (e.g. types of receptacles, receival points, temporary storage points, final disposal locations) • volumes generated at each site (including total volume and generation rates) • types of waste generated at each site	-	-	☐

	Responsibility	Task	Further information	Timeframe (if applicable)	Complete
		• approvals obtained (as required).			

Table 14-4: Resource Capability – Waste Management

Resources	Source	Quantity Available	Location / Quantity Available	Mobilisation Timeframe
Waste storage and transport equipment	Waste Services Provider	Waste receptacles (e.g. IBCs, mobile bins, skip bins, hook lift bins, offshore rated bins) as per Jadestone Waste Management Plan – Oil Spill Response Support (JS-70-PR-I-00037)	Darwin and other locations in Australia	Within 24–48 hours of activation of Waste Service Provider
Waste management personnel	Waste Services Provider/s	Personnel as per Jadestone Waste Management Plan – Oil Spill Response Support (JS-70-PR-I-00037)	Darwin and other locations in Australia	Within 24–48 hours of activation of Waste Service Provider

14.2.1 Environmental Performance

Table 14-5 lists the environmental performance standards and measurement criteria for this strategy.

Table 14-5: Environmental Performance Standards and Measurement Criteria – Waste Management

No.	Performance Standard	Measurement Criteria	Responsibility
Response Preparedness			
EPS34	Jadestone to maintain contracts with third-party providers to provide access to suitably qualified and competent personnel and equipment to assist in the implementation of waste management activities	Contract maintained with Waste Service Provider	Emergency Response Lead
		AMOSC Master Services Agreement	
		OSRL Service Level Agreement	
		Access to National Plan resources through AMSA	
Response Implementation (only required in the event of a spill)			
EPS35	Notify Waste Services Provider of spill and activate services within 12 hours of IMT identifying requirements for waste storage, collection and/or transport	Records demonstrate that Waste Services Provider notified of spill and services activated within 12 hours of IMT identifying requirements for waste storage, collection and/or transport	IMT Leader
EPS36	Finalise Waste Management Plan to suit the specifics of the incident	Records demonstrate that Waste Management Plan was finalised to suit the specifics of the incident	IMT Leader
EPS37	Provision of waste receptacles to support operations at nominated sites, within 24–48 hours of activation of Waste Service Provider	Records demonstrate that waste receptacles provided to support operations at nominated sites, within 24–48 hours of activation of Waste Service Provider	IMT Leader
EPS38	Waste Service Provider shall track all wastes from point of generation to final destination	Waste Service Provider tracking records	IMT Leader

15. TERMINATION OF THE RESPONSE

Terminating the spill response may involve demobilising personnel and equipment from response locations, post-incident reporting, identifying improvement opportunities, reviewing and updating plans and restocking equipment supplies. Scientific monitoring may continue after response operations have ceased and may be used to inform remediation activities.

The decision to terminate response operations will be made in consultation with the relevant Control Agency and/or Jurisdictional Authority. Other Statutory Authorities may also play an advisory role. Figure 20-1 provides guidance on termination activities.

An operational SIMA will be conducted to inform the decision-making process. Termination criteria are defined within each section of contingency response activities defined within this OPEP.

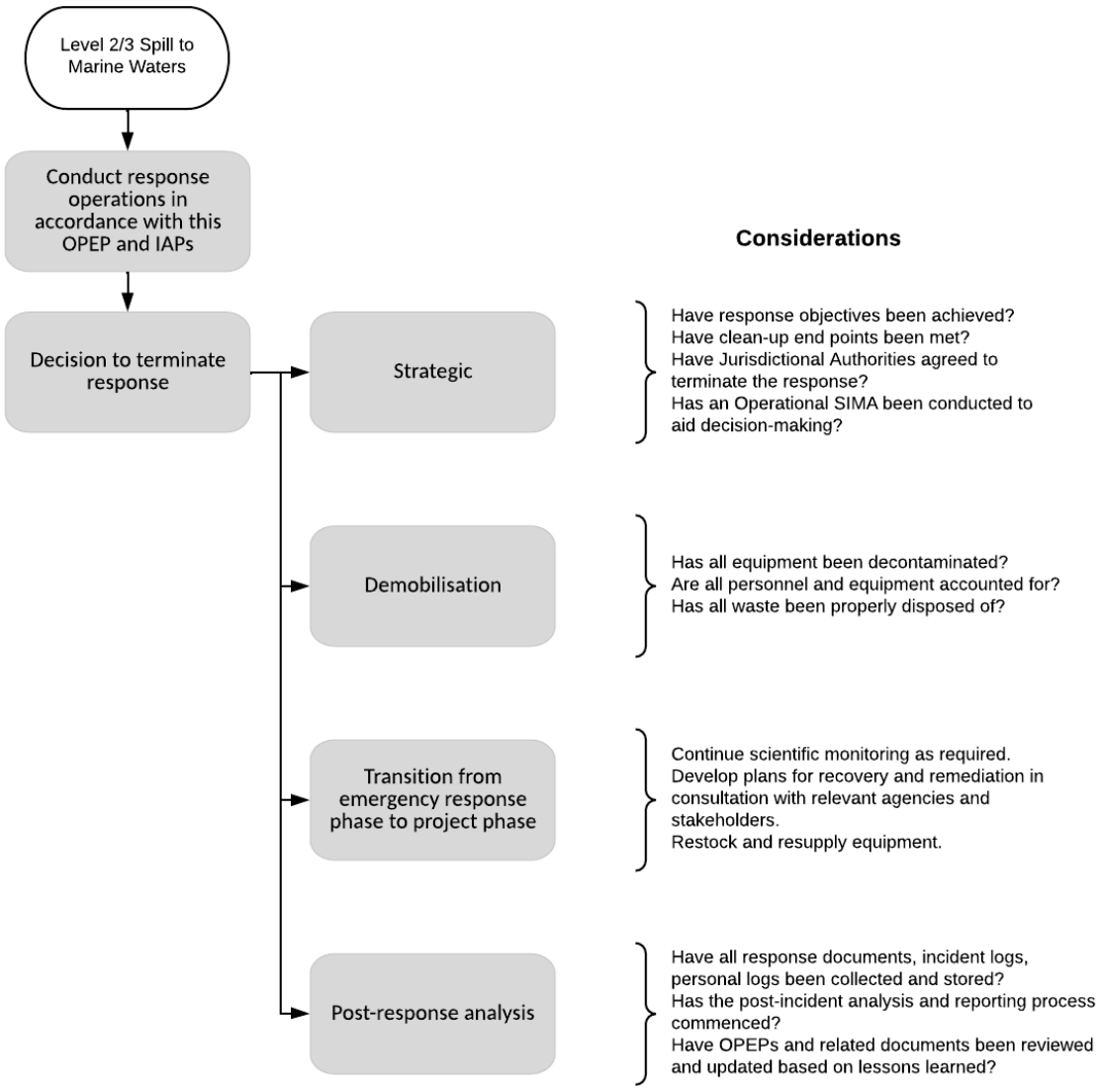

Figure 20-1: Guidance for Response Termination

16. REFERENCES

Australian Marine Oil Spill Centre (AMOSC) (2019), Northern Territory Oiled Wildlife Response Plan, version 2.0, February 2019

AMSA. (2017). Australian Government Coordination Arrangements for Maritime Environmental Emergencies. Australian Maritime Safety Authority, Canberra, Australian Capital Territory. Accessed 5 Sept 2025 - https://www.amsa.gov.au/marine-environment/national-plan-maritime-environmental-emergencies/np-gui-020-national-plan

Australian Maritime Safety Authority (AMSA) (2020). National Plan for Maritime Environmental Emergencies. Australian Maritime Safety Authority, Canberra, Australian Capital Territory. Accessed 5 Sept 2025- https://www.amsa.gov.au/marine-environment/national-plan-maritime-environmental-emergencies#collapseArea313

AMSA (2021). Offshore petroleum industry advisory note; Advisory note for the offshore petroleum industry on environmental plans and oil pollution emergency plans, Accessed 5 Sept 2025 - https://www.amsa.gov.au/safety-navigation/navigating-coastal-waters/offshore-activities/offshore-petroleum-industry-advisory

AMSA. (2022). National Plan: Incident Management System Policy. NP-POL-003. Accessed 5 Sept 2025 - https://www.amsa.gov.au/marine-environment/national-plan-maritime-environmental-emergencies/np-pol-003-national-plan

Australian Petroleum Production and Exploration Association (APPEA). (2021). Joint Industry Operational and Scientific Monitoring Framework. Prepared by BlueSands Environmental for the APPEA Joint Industry Operational and Scientific Monitoring Project Steering Committee. Rev D, March 2021.

Bonn Agreement (2016). Bonn Agreement Aerial Operations Handbook (Part III). Accessed 5 Sept 2025- https://www.bonnagreement.org/site/assets/files/1081/aerial_operations_handbook.pdf

Coelho, G., Clark, J., Staves, J., Essex, L., Daling, P., Beegle-Krause, C., Merlin, F., Zhilin, A., and Word, J. (2014). Net Environmental Benefit Analyses for Oil Spill Response Options, Chapter 9 of Environmental Impacts of Arctic Oil Spills and Arctic Spill Response Technologies.

Department of Biodiversity, Conservation and Attractions (DBCA). (2022a). Western Australian Oiled Wildlife Response Plan (WA OWRP) for Maritime Environmental Emergencies. Accessed 5 Sept 2025 - https://www.dpaw.wa.gov.au/management/marine/marine-wildlife/marine-wildlife-response?showall=&start=2

DBCA. (2022b). Western Australian Oiled Wildlife Response Manual. Accessed 5 Sept 2025 - https://www.dpaw.wa.gov.au/management/marine/marine-wildlife/marine-wildlife-response?showall=&start=2

European Maritime Safety Agency (EMSA) (2010). Manual on the Applicability of Oil Spill Dispersants – Version 2. European Maritime Safety Agency. Accessed 5 Sept 2025 - http://www.emsa.europa.eu/opr-documents/opr-manual-a-guidelines/item/719-manual-on-the-applicability-of-oil-spill-dispersants.html

French-McCay, D.P. (2009). State of the art and research needs for oil spill impact assessment modelling. pp. 601-653, in Proceedings of the 32nd AMOP Technical Seminar on Environmental Contamination and Response, Emergencies Science Division, Environment Canada, Ottawa, Canada.

IPIECA-IOGP (2015). Dispersants: surface application. IPIECA-IOGP Good Practice Guide Series, Oil Spill Response Joint Industry Project. IOGP report 532. International Petroleum Industry Conservation Association, London, United Kingdom. Accessed 5 Sept 2025 - https://www.iogp.org/bookstore/product/dispersants-surface-applications/

IPIECA-IOGP (2017). Guidelines on implementing spill impact mitigation assessment (SIMA): A technical support document to accompany the IPIECA-IOGP guidance on net environmental benefit analysis (NEBA). IPIECA-IOGP Report 593.

ITOPF (2025). ITOPF Members Handbook 2025. Prepared by International Tanker Owners Pollution Federation Ltd. Accessed 5 Sept 2025 - https://www.itopf.org/knowledge-resources/documents-guides/itopf-handbook/

McKinney K and Caplis J. (2017). Evaluation of Oleophilic Skimmer Performance in Diminishing Oil Slick Thicknesses. International Oil Spill Conference Proceedings: May 2017, Vol. 2017, No. 1, pp. 1366–1381.

National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA) (2019). Oil Spill Modelling. Environmental Bulletin A652993. Accessed 5 Sept 2025 - https://www.nopsema.gov.au/sites/default/files/documents/2021-04/A652993.pdf

NOPSEMA (2020) Facility definition includes an associated offshore place. NOPSEMA Guideline A15295. Accessed 5 Sept 2025 - https://www.nopsema.gov.au/sites/default/files/documents/2021-03/A15295-.pdf

Northern Territory Government. 2021. Territory Emergency Plan. Accessed 5 Sept 2025 - https://pfes.nt.gov.au/sites/default/files/uploads/files/2021/NTES_Territory_Emergency_Plan_2021.pdf

Owens and Sergy. (2000). The SCAT Manual. A field guide to the documentation and description of oiled shorelines. 2nd edition. Environmental Canada, Edmonton, Alberta, Canada.

RPS (2025) Sea Eagle, Tahbilk and Montara Oil Spill Risk Assessment. Report GOC409222.

WA DoT (2020). Offshore Petroleum Industry Guidance Note Marine Oil Pollution: Response and Consultation Arrangements. Department of Transport, Perth, Western Australia. Accessed 5 Sept 2025 - https://www.transport.wa.gov.au/mediaFiles/marine/MAC_P_Westplan_MOP_OffshorePetroleumIndGuidance.pdf

17. ABBREVIATIONS

Abbreviation	Meaning
AFMA	Australian Inter-Service Incident Management System
AIIMS	Australasian Inter-Service Incident Management System
ALARP	As Low As Reasonably Practicable
AMOSC	Australian Marine Oil Spill Centre
AMSA	Australian Maritime Safety Authority
BAOAC	Bonn Agreement Oil Appearance Code
BER	Boom Encounter Rate
DBCA	Department of Biodiversity Conservation and Attractions
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEWR	Department of Water and Environmental Regulation
DFAT	Department of Foreign Affairs
DMIRS	Department of Mines, Industry Regulation and Safety (Previously Department of Mines and Petroleum)
DOR	Dispersant to Oil Ratio
DPIRD	Department of Primary Industries and Regional Development
EMBA	Environment that May Be Affected
EP	Environment Plan
EPS	Environmental Performance Standard
ESC	Environment Scientific Coordinator
FOB	Forward Operating Base
FWADC	Fixed Wing Aerial Dispersant Contract
GCT	Group Crisis Team
HMA	Hazard Management Authority
IAP	Incident Action Plan
ICC	Incident Control Centre
IMT	Incident Management Team
IMTRP	Incident Management Team Response Plan
IRP	Incident Response Plan
JSCC	Joint Strategic Coordination Committee
MAE	Major Accident Event
MBC	Marine Breakaway Coupling
MDO	Marine Diesel Oil
MEECC	Maritime Environmental Emergency Coordination Centre
MEER	Maritime Environmental Emergency Response
MODU	Mobile Offshore Drilling Unit
MV	Montara Venture

Abbreviation	Meaning
NEBA	Net Environmental Benefit Analysis
NOPSEMA	National Offshore Petroleum Safety and Environment Management Authority
NOPTA	National Offshore Petroleum Titles Administrator
OIM	Offshore Installation Manager
OM	Operational Monitoring
OMP	Operational Monitoring Plan
OPEP	Oil Pollution Emergency Plan
OSC	On-Scene Commander
OSCA	Oil Spill Control Agent
OSM-BIP	Operational and Scientific Monitoring Bridging Implementation Plan
OSRL	Oil Spill Response Limited
OSTM	Oil Spill Trajectory Modelling
OWR	Oiled Wildlife Response
POLREP	Pollution Report
PPA	Protection Priority Area
PSV	Platform Supply Vessel
RCC	Rescue Coordination Centre (Canberra, Australia)
SEMC	State Emergency Management Committee
SHP-MEE	State Hazard Plan for Maritime Environmental Emergencies
SIMA	Spill Impact Mitigation Assessment
SLA	Service Level Agreement
SM	Scientific Monitoring
SMART	Special Monitoring of Applied Response Technologies
SMP	Scientific Monitoring Plan
SMPC	State Maritime Pollution Coordinator
SMPEP	Shipboard Marine Pollution Emergency Plan
SOPEP	Ship Onboard Pollution Emergency Plan
UAV	Unmanned Aerial Vehicle
WA	Western Australia
WA DTMI	Western Australian Department of Transport and Infrastructure
WAOWRP	Western Australian Oiled Wildlife Response Plan
WCS	Worst-case Spill

APPENDIX A HYDROCARBON PROPERTIES

Marine Gas Oil / Marine Diesel Oil

ITOPF (2025) categorises MGO/MDO as a light group II hydrocarbon. In the marine environment, a 5-10% residual of the total quantity of MGO/MDO spilt will remain after the volatilisation and solubilisation processes associated with weathering, although this amount will slowly decay over time. Some heavy components contained within the MGO/MDO will have a strong tendency to physically entrain into the upper water column in the presence of moderate winds (i.e. >12 knots) and breaking waves, but can re-float to the surface if these energies abate.

Change in the mass balance calculated for MGO/MDO weathering under the constant wind case (Figure A-3) indicates that approximately 40.3 to 34.4% (MGO / MDO respectively) of the oil volume is predicted to evaporate within 24 hours. Under calm conditions, the majority of the remaining oil on the water surface will weather at a slower rate due to the MGO/MDO being comprised of the longer-chain compounds with higher boiling points. Evaporation shall cease when the residual compounds remain, and they will be subject to more gradual decay through biological and photochemical processes.

Under the variable-wind case (Figure A-4), where the winds are of greater strength on average, entrainment of MGO/MDO into the water column is predicted to increase. Approximately 24 hours after the spill, 60.1 to 83.0% of the oil mass is forecast to have entrained and a further 38.4 to 11.4% is forecast to have evaporated (MGO / MDO respectively), leaving only a small proportion of the oil floating on the water surface (~<0.1 to 1.3%).

The increased level of entrainment in the variable-wind case result in a higher percentage decaying at an approximate rate of 1.5 to 3.1% per day with or ~10.5 to 21.9% after 7 days, compared to <0.1 to 0.4% per day and a total of 0.9 to 2.6% after 7 days for the constant-wind case. Given the proportion of entrained oil and the tendency for it to remain mixed in the water column, the remaining hydrocarbons will decay over time scales of several weeks.

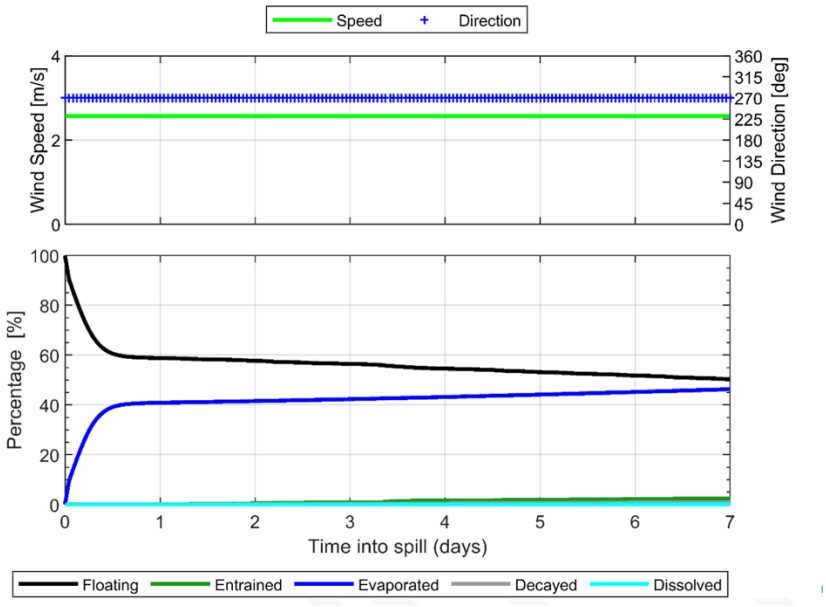

Figure A-3: Proportional mass balance plot representing the weathering of MGO spilled onto the water surface as a one-off instantaneous release and subject to a constant 5 knots wind at 27°C water temperature and 25°C air temperature (RPS, 2025).

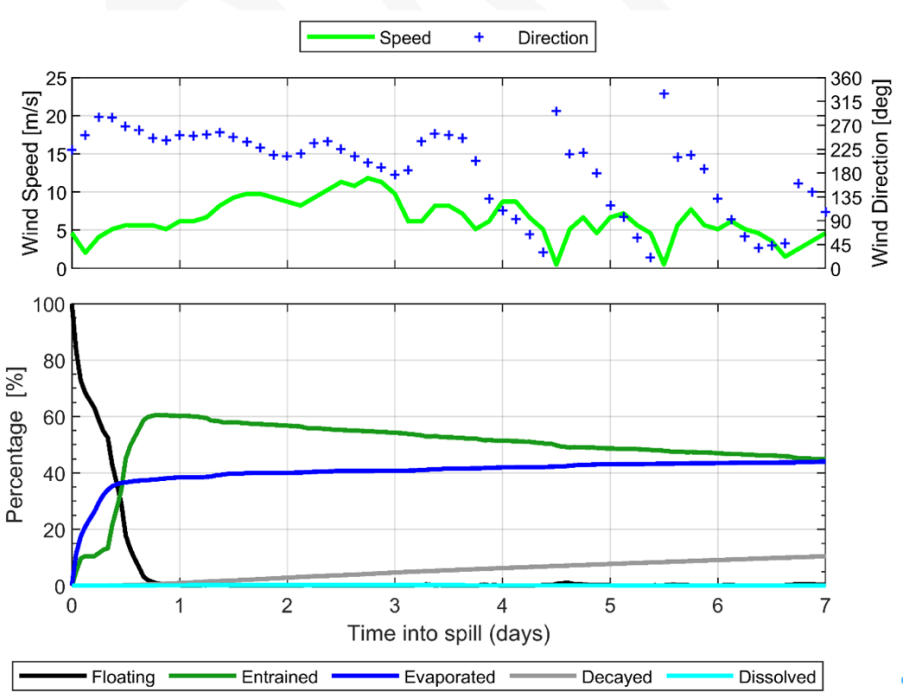

Figure A-4: Proportional mass balance plot representing the weathering of MGO spilled onto the water surface as a one-off instantaneous release and subject to variable winds (up to 24 knots) at 27°C water temperature and 25°C air temperature (RPS, 2025).

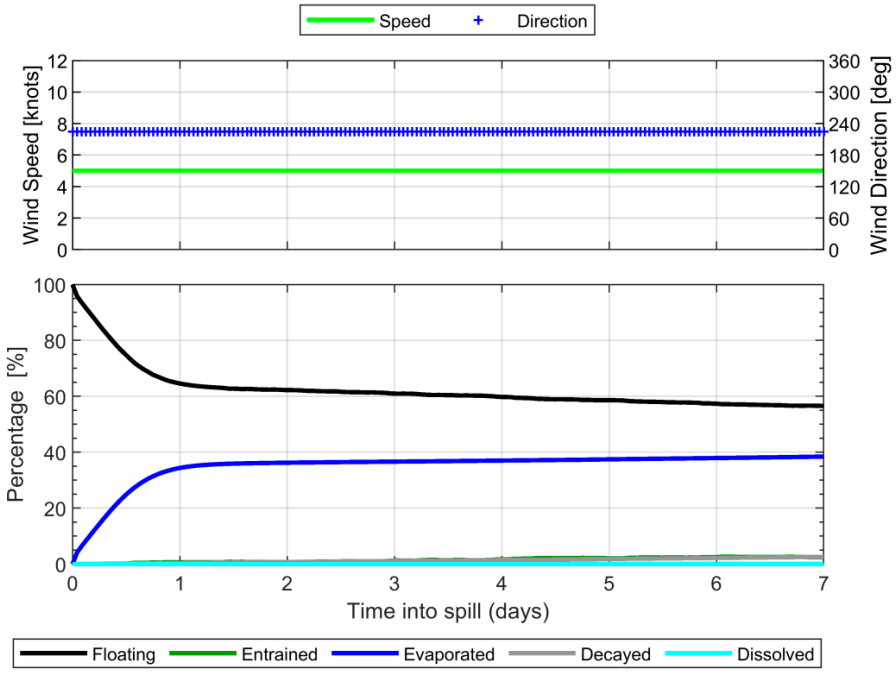

Figure A-3: Proportional mass balance plot representing the weathering of MDO spilled onto the water surface as a one-off instantaneous release and subject to a constant 5 knots wind at 27°C water temperature and 25°C air temperature (RPS, 2023).

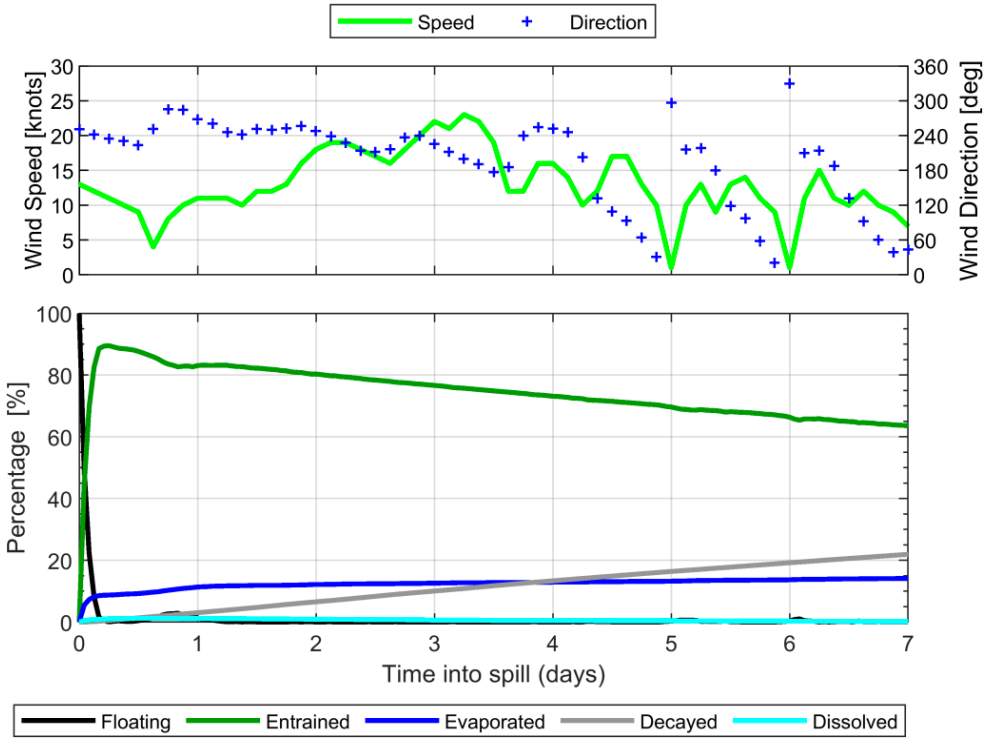

Figure A-4: Proportional mass balance plot representing the weathering of MDO spilled onto the water surface as a one-off instantaneous release and subject to variable winds (up to 24 knots) at 27°C water temperature and 25°C air temperature (RPS, 2023).

APPENDIX B IMT ROLES AND RESPONSIBILITIES

The following tables (Table B-1 to Table B-5) describe the roles and responsibilities of IMT Lead and key support role positions. Specific information relating to the Group Crisis Team and the IRT roles and responsibilities are provided in respective crisis management and incident response plans.

Table B-1: IMT Leader key roles and responsibilities

DUTY CARD 1: IMT LEADER
ROLE
The IMT Leader has overall responsibility for the management the incident response. The IMT Leader will be the initial point of contact for the Corporate Office.
RESPONSIBILITIES
• Take charge and exercise leadership, including the establishment of the incident management structure • Set objectives for the incident response, considering the safety of all personnel as a priority • Develop and approve plans and strategies to control the incident • Implement the IAP and monitor its progress • Provide information and warnings to communities so that they can make informed decisions • Establish effective liaison and cooperation with all relevant agencies, affected communities and others external to the IMT • Obtain and maintain human and physical resources required for the resolution of the incident • Apply a risk management approach, and establish systems and procedure for the safety and welfare of all response personnel • Ensure effective communications with the Group Crisis Team Leader, when activated • Ensure appropriate financial delegations are in place and these delegations are made known to the appropriate response personnel. • Ensure relief and recovery considerations are addressed • Ensure collaborations between all organisations supporting the response
SPECIFIC TASKS
Initial Actions

☐ Obtain briefing on incident from the OSC (or IRT contact) and review initial assessment
☐ Activate the necessary members of the IMT
☐ Proceed to IMT Room
  o Ensure IMT Room is fully set-up before incident management commences
☐ Notify the Country Manager (CM) first, then following this, call and notify the CEO (if unable to reach Country Manager after two attempts, continue to call CEO, continue to reach CM), as link into Group Crisis Team as appropriate Support Country Manager in seeking Group Crisis Team guidance/support
  o Support Country Manager in seeking Group Crisis Team guidance/support
  o Support Country Manager in scheduling ongoing contact
☐ If an oil spill, confirm spill level

Determine Incident Objectives and general direction for managing the incident

☐ Establish the immediate priorities:
  o Define IMT aim and objectives
  o If necessary, confer with government agencies to agree on common incident objectives and priorities

DUTY CARD 1: IMT LEADER

- ☐ Chair initial IMT briefing
  - Communicate priorities to the IMT
  - Confirm ongoing means of communications with OSC has been established to Operations function
  - Confirm which key stakeholders need to be notified, responsibility for notification and ongoing liaison including regulatory authorities
  - Confirm with Planning Lead that all appropriate log-keeping, issues and actions, and status boards are maintained.
  - If required, give direction to HR/Admin on HR expectations to: Employee communications, Victim / next of kin support, affected contractors

Ongoing Actions

- ☐ Refer to and follow the Incident Management Process as described at Section 5.0 of the IMTRP
- ☐ Use the STAKEHOLDER MANAGEMENT Form – See IMT-AU in Microsoft Teams – to assist with tracking stakeholder contact.
- ☐ Hold regular IMT updates
  - Time out, phones switched to time out mode
  - Every 30 minutes initially (as a guide)
  - Monitor effectiveness of response and review issues and actions and priorities.
  - With Planning Lead, establish short-term/long-term recovery goals, milestones and resource requirements
  - Brief Corporate Office as required
- ☐ Delegate Responsibilities
  - Allow yourself to focus on key stakeholder liaison and setting strategic objectives for next operational period
- ☐ Determine duration and structure of incident response operations
  - Decide duration of current operational period (start thinking of when to stand down or next day operations)
  - Identify additional personnel needs to maintain 24-hour support.

Notifications and media strategy

- ☐ Confirm that required notifications are made and updates provided
  - Ensure communications with governments/regulators are regular and proactive
  - Consider need for additional senior management liaison / high level briefing with regulators
  - Ensure that internal notifications are made
- ☐ The Media Support Team decide on the position the asset/company adopts:
  - Ensure an initial pre-approved media holding statement is prepared
  - Agree on message content and timing of release to media, internal audiences, regulators, community leaders etc.
  - Be prepared to deal with rapid media interest and possible presence at scene

Stand Down

- ☐ Communicate end of IMT response to all relevant internal and external parties
- ☐ Provide copies of all incident related documents and logs to the Log Keeper
- ☐ Stand down those people not required in managing ongoing recovery process
- ☐ Hold debrief of IMT, specialist advisors, support teams and receive feedback
- ☐ Review any capability gaps and opportunities for improvement in the response

DUTY CARD 1: IMT LEADER
☐ Review and approve the incident report
☐ Commission post-incident investigation
☐ Ensure accepted recommendations have been incorporated into the IMTRP

Table B-2: Operations Lead key roles and responsibilities

DUTY CARD 2: OPERATIONS
ROLE
Reports to IMT Leader and is responsible for activating and supervising tactical response operations in the field. Implements the operational plans to achieve response objectives and protect people, the environment and property
RESPONSIBILITIES
• Obtain a briefing from the IMT Leader or the position that you report to • Establish the Operations Section appropriate to the size and complexity of the incident • Appoint unit coordinators as required and delegate tasks • Manage the personnel within the Operations Section • Develop and maintain an effective register of all resources, required, en route, allocated to and released from the incident • Adjust the structure of the Operations Section throughout the incident • Provide a safe working environment for personnel within the Operations Section • Establish and maintain a log of activities and decisions for the Operations Section • Communicate Section performance to the IMT Leader or the position you report to • Prepare shift handover and brief incoming Operations Lead • Manage the continuity of Operations activities across shift changes • Consider sources of local knowledge and information relevant to the incident. • Identify new and emerging risks for the incident and address these in the IAP • Collect, collate and store incident records • Maintain a personal log of activities and decisions made • Conduct handover briefing
SPECIFIC TASKS
Initial Actions
☐ Identify and locate OSC – obtain all available information on the situation ☐ Agree call schedule with the OSC ☐ Use the INCIDENT STATUS Form – see IMT-AU in Microsoft Teams ☐ Assess incident, including incident potential ☐ Start a personal log
Ongoing Actions
☐ Propose and agree immediate priorities with the IMT Leader ☐ Update Planning Lead on situation for development of the Incident Action Plan ☐ Work with Logistics to identify logistical support requirements ☐ Identify issues and actions required for the next period – mark and track on display boards ☐ Source and provide technical information and support required by the response teams. ☐ Develop strategy (i.e. what we are attempting to achieve) ☐ Identify tactics/breaking down tactics into manageable tasks (i.e. how we are going to implement strategy) ☐ Confer with response contractors / consultants for equipment and techniques ☐ Allocate tactical resources based on strategy requirements

DUTY CARD 2: OPERATIONS
☐ Provide updates to the display boards to reflect current operations in the field
☐ Resource additional technical support as required
Stand Down
☐ Attend the IMT debrief
☐ Provide copies of all incident related documents and logs to the Log Keeper
☐ Monitor the demobilisation of response teams

Table B-3: Logistics Lead key roles and responsibilities

DUTY CARD 5: LOGISTICS
ROLE
Reports to IMT Leader and manages all logistics and procurement requirements for the response
RESPONSIBILITIES
• Assist with setup and coordination of the incident control centre (ICC) • Obtain a briefing from the IMT Leader or the position that you report to • Establish the Logistics Section appropriate to the size and complexity of the incident • Appoint unit coordinators as required and delegate tasks • Manage the personnel within the Logistics Section • Provide mobilisation and demobilisation for equipment and services • Adjust the structure of the Logistics Section throughout the incident • Provide a safe working environment for personnel within the Logistics Section • Establish and maintain a log of activities and decisions for the Logistics Section • Communicate Section performance to the IMT Leader • Prepare shift handover and brief incoming Logistics Lead • Manage the continuity of Logistics activities across shift changes • Consider sources of local knowledge and information relevant to the incident. • Identify new and emerging risks for the incident and address these in the IAP • Collect, collate and store incident records • Maintain a personal log of activities and decisions made • Conduct handover briefing
SPECIFIC TASKS
Initial Actions
☐ Mobilise any additional resources or specialist advisors ☐ Determine and supply immediate incident resource and facility needs ☐ Establish communications, exchange information and coordinate activities with Logistic Supply Base(s) ☐ Use and maintain the Resources Summary sheet – Appendix E and in OneNote– to track resources ☐ Start a personal log
Ongoing Actions
☐ Establish contact and coordinate logistics-related activities with other agency logistics personnel ☐ Review logistics requirements for proposed tactics for upcoming operational period ☐ Advise other Functions on resource availability to support incident needs ☐ Coordinate and process requests for additional resources ☐ Work with the Operations Lead to track and display incident resources and facilities ☐ Confer with IMT Leader for acquisition or release of major / costly resources or services ☐ Provide responders in the field with adequate food, drink, medical assistance, communications, clothing, transportation (land, water and air), sanitary and sleeping arrangements, security and other requirements ☐ Ensure that responders are supplied with the proper PPE ☐ Provide management and security support for incident facilities such as: ○ personnel and equipment staging areas

DUTY CARD 5: LOGISTICS
○ warehouse and maintenance facilities; camps; heli-bases etc.
☐ As appropriate to the incident, work with the Operations and Planning Functions, contractors and government agency personnel to plan, permit and operate waste handling and disposal and injured wildlife rehabilitation facilities
☐ Identify long-term service and support requirements for planned and expected operations
☐ Recommend the reassignment or deactivation of incident resources
Stand Down
☐ Arrange for transportation of equipment and personnel in conjunction with demobilization
☐ Attend the IMT debrief
☐ Provide copies of all incident related documents and logs to the Log Keeper

Table B-4: Planning Lead key roles and responsibilities

DUTY CARD 6: PLANNING
ROLE
Reports to the IMT Leader and manages the IMT related planning functions for the response
RESPONSIBILITIES
• Assist with setup and coordination of the incident control centre (ICC) • Obtain a briefing from the IMT Leader or the position that you report to • Establish the Planning Section appropriate to the size and complexity of the incident • Appoint unit coordinators as required and delegate tasks • Manage the personnel within the Planning Section • Adjust the structure of the Planning Section throughout the incident • Provide a safe working environment for personnel within the Planning Section • Establish and maintain a log of activities and decisions for the Planning Section • Communicate Section performance to the IMT Leader • Prepare shift handover and brief incoming Planning Lead • Manage the continuity of Planning activities across shift changes Checklist • Consider sources of local knowledge and information relevant to the incident. • Identify new and emerging risks for the incident and address these in the IAP • Monitor effectiveness of risk mitigation strategies • Provide strategic advice to the IMT based on information received • Prepare the IAP for the next operational period and any longer-term planning required • Disseminate the IAP throughout the incident management structure • Develop changeover and demobilisation plans and manage their implementation • Develop and review the Communications Plan and its implementation • Regularly communicate progress of strategies and the IAP to the IMT Leader • Collect, collate and store incident records • Maintain a personal log of activities and decisions made • Conduct handover briefing
SPECIFIC TASKS
Initial Actions
☐ Assist the IMT Leader to maintain and use the BRAINSTORMING/PLANNING Form – see IMT-AU in Microsoft Teams ☐ Mobilise any additional resources or specialist advisors immediately required to commence recovery planning ☐ Ensure Log Keeper is in place and the IMT is maintaining an auditable documentation trail ☐ Consider need to activate Environmental Support ☐ Setup and maintain a document retention process for all response documentation ☐ Start a personal log
1 Ongoing Actions
☐ Drive and monitor the incident management process ☐ Oversee and coordinate the actions of the Environmental Support Team. ☐ Prepare the Incident Action Plan (IAP):   ○ Establish time for next operational period (generally starting the next morning for 24-hour duration)

DUTY CARD 6: PLANNING
○ Create Incident Objectives for next operational period and submit to IMT Leader for approval ○ Create Meeting Schedule and advise IMT Leader on planning process issues ○ Develop plans for recovery operations to implement tomorrow, the next day, next week etc. ☐ Consolidate the IAP and assemble for final approval and signoff
2 Stand Down
☐ Ensure team members and supports complete any outstanding log/record keeping ☐ Ensure all log sheets are collected before the team leaves the room. (All notebooks to be copied and / or originals to be retained) ☐ Arrange for copies of all email traffic and incident files to be collated and stored. ☐ Consider need to photograph IMT room and key display boards before it is tidied ☐ Contribute to the development of the incident report.

Table B-5: Environment Unit Lead key roles and responsibilities

DUTY CARD 7: ENVIRONMENT UNIT LEAD
ROLE
Reports to the Planning Lead and manages the environmental related planning functions for the response
RESPONSIBILITIES
• Manage the personnel within the Environment Unit • Conduct Operational Spill Impact Mitigation Assessment (SIMA) using guidance in the OPEP • Manage oil spill trajectory modelling requests and dissemination of information to IMT (spills only) • Provide IMT interface to Operational and Scientific Monitoring Team (spills only) • Prepare shift handover and brief incoming Environment Unit Lead • Manage the continuity of Environment Unit activities across shift changes Checklist • Consider sources of local environmental knowledge and information relevant to the incident • Identify new and emerging environmental risks for the incident and address these in the IAP • Maintain a personal log of activities and decisions made • Conduct handover briefing
SPECIFIC TASKS
Initial Actions
☐ Conduct Operational SIMA ☐ Confirm protection and monitoring priorities using latest Monitor and Evaluate data (i.e. aerial surveillance, tracking buoy, spill trajectory modelling) ☐ Activate Operational and Scientific Monitoring Service Provider to set up Operational and Scientific Monitoring Team ☐ Analyse data received from Operational and Scientific Monitoring Team (this task may be delegated to OSM Management Team) and ensure the information is incorporated into the current/next operating period's Incident Action Plan ☐ Start a personal log
1 Ongoing Actions
☐ Provide overarching technical advice to IMT ☐ Ensure available monitoring data is incorporated into the Operational SIMA at the end of each operational period to aid in response decision making
2 Stand Down
☐ Manage scientific monitoring components once spill operations have been terminated (or delegate as appropriate) ☐ Arrange for copies of all email traffic and incident files to be collated and stored. ☐ Contribute to the development of the incident report.

APPENDIX C IMT TRAINING AND COMPETENCY REQUIREMENTS

IMT Role	Training										
	IMO 3 – Oil Spill Response – Command & Control Priority Level (1)	IMO 2 – Oil Spill Response Management Priority Level (1)	Coordinate Incident Response (PMAOMIR418) Priority Level (1)	Manage Incident Response Information (PMAOMIR322/PMAOMIR320) Priority Level (1)	Jadestone Incident Management Team Introduction (Online Module) Priority Level (2)	IMT Duty Roster Orientation Priority Level (2)	IMT Oil Spill Response Workshop (Annual) Priority Level (3)	*IMT MAE Drill (Quarterly) Priority Level (3)	** Oil Spill Response Functional Exercise (Annual) Priority Level (3)	***Targeted Oil Spill Refresher Workshop (as required) Priority Level (3)	Media Awareness
IMT Leader	M	-	M	M	M	M	M	M	M	R	R
Operations Lead	-	M	-	M	M	M	M	M	M	-	-
Planning Lead	-	M	-	M	M	M	M	M	M	M	-
Logistics Lead	-	M	-	M	M	M	M	M	M	-	-

Priority Levels: (1) Pre-join; (2) 0–3 months; (3) 0–12 months

Key:

M – mandatory R – recommended

** to participate or be an observer in a minimum of one drill per year*

*** to attend a minimum of one within 3 year IMO certification period*

**** to attend a minimum of three per year pro rata from starting time*

APPENDIX D LOGS

Vessel visual observer log | Note: Send to IMT within one hour of observations being completed.

Survey Details						
Date	Start time	End Time	Observers			
Incident			Area of Survey			
Vessel type	Call sign					
Weather Conditions						
Wind speed (knots)			Wind direction			
Cloud cover (%)			Visibility			
Time high water			Current direction			
Time low water			Current speed (nM)			
Slick Details						
Slick grid parameters by lat/long			Slick grid parameters (vessel speed)		Slick grid dimensions	
Length Axis	Width Axis		Length Axis		Width Axis	Length	nm
Start Latitude	Start Latitude		Time (seconds)		Time (seconds)	Width	nm
Start Longitude	Start Longitude					Length	nm
End Latitude	End Latitude		Vessel Speed (knots)		Vessel Speed (knots)	Width	nm
End Longitude	End Longitude					Grid area	km^2
Visual appearance slick						
Colours, emulsification etc.						

Any marine fauna or other activities observed

Aerial surveillance observation log | Note: Send to IMT within one hour of observations being completed.

Date	Incident	Aircraft type	Call sign	Start time	End time	Av altitude/ air speed
Wind speed (kts)	**Wind direction**	**Visibility (nm)**	**Cloud base (ft)**	**Sea state**	**Observer name/s**	**Spill source**
Survey start /end coordinates	**Survey start time**	**Survey end time**	**Time high tide**	**Time low tide**	**Current speed (nm)**	**Current direction**
Notes (e.g. remote sensing used, wildlife or sensitive receptors observed, any response activities observed):						

Slick details

Slick	Time local	Slick (centre or start)		Slick (end)		Slick Orient Degrees	Oil slick length			Oil slick width			Area km^2	Coverage %	Oiled area km^2
		LAT N/S	LONG E/W	LAT N/S	LONG E/W		SOG KT	Time seconds	Distance km	SOG KT	Time seconds	Distance km			
A															
B															
C															
D															

Slick	Oil appearance coverage – %						Min. volume – m^3	Max. volume – m^3	Type of detection (etc. visual, IR)	Edge description (clear or blurred)	General description (windrows/patches)
	1	2	3	4	5	other					
A											
B											
C											
D											

NOTE: Ground Speed (SOG) is the speed of the aircraft relative to the ground (sea) measured in knots (kt). One knot is one nautical mile (nm) per hour. 1 kt = 1 nm per hour = 1.85 Kilometres (km) per hour = 0.03 km (31 m) per minute = 0.0005 km per second

The Bonn Agreement Oil Appearance Code (BAOAC)			
No	**Oil appearance**	**Min. Volume m^3 / km^2**	**Max. Volume m^3 / km^2**
1	Sheen	0.04	0.30
2	Rainbow	0.30	5.00
3	Metallic	5.00	50.0
4	Discontinuous true colour	50.0	200
5	True colour	200	>200