MACEDON OPERATIONS ENVIRONMENT PLAN (COMMONWEALTH) SUMMARY

Doc Number: MACHSE-E-0025

Contents

1 Introduction

BHP Billiton Petroleum Pty Ltd (BHP), as nominated Titleholder (on behalf of a Joint Venture comprising BHP and Quadrant Energy Australia Limited) under the *Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009* (the OPGGS (Environment) Regulations 2009), proposes to continue ongoing operations activities (the Activity) for the offshore Macedon gas field located in graticular blocks which form part of the Pyrenees production licence WA-42-L.

This document summarises the updated Macedon Operations Environment Plan (EP) (Commonwealth), as accepted by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), which was submitted prior to the five year anniversary of the previously accepted version of the EP to meet the requirements of Regulation 19(1) of the OPGGS (Environment) Regulations 2009.

Macedon Operations is a WA domestic gas project that exploits gas reserves in the Macedon gas field via subsea infrastructure in Commonwealth waters and a subsea pipeline (WA-23-PL) that continues through State waters and onshore to a gas plant located approximately 17 km southwest of Onslow. The EP covers all offshore facilities and related operational activities, including inspections, maintenance and repair (IMR) activities of subsea infrastructure at the:

- Macedon Well Field; and
- Associated wet gas pipeline (WA-23-PL) in Commonwealth waters.

2 Location of the Activity

The Macedon Operations involves production of gas from the Macedon gas field via four subsea production wells (Table 2-1) and associated subsea field infrastructure (includes manifolds, flowlines, umbilicals), with transport of the gas to an onshore processing plant via a subsea gas pipeline. The Macedon gas field is situated within production licence WA-42-L located on the North West Shelf in Commonwealth waters ranging from 120 to 180 m depth, approximately 40 km north of Exmouth and 100 km west of Onslow.

The field infrastructure is operated remotely from the onshore gas plant via umbilical, and production does not involve any onsite activity. The wet gas pipeline and umbilical in Commonwealth waters are approximately 24 km in length, extending up to the State-Commonwealth waters boundary, where water depths are approximately 60 m (Figure 2-1).

Operations includes periodic IMR activities undertaken to ensure the ongoing integrity of infrastructure and consisting of vessel-based operations that may include Remotely Operated Vehicles (ROV), Autonomous Underwater Vehicles (AUV) and/or diving activities.

The Operations Area defines the geographical boundary of the activity. The Operations Area includes the safety exclusion area which extends to a distance of 500 m, measured from each point of the outer edge of the each of the four Macedon wells and subsea equipment in the field, and a 100 m wide corridor extending either side of the outermost asset (pipeline or umbilical) along the pipeline route to the Commonwealth-State waters boundary.

The coordinates of the production wells are provided in Table 2-1 with their location, and that of other key infrastructure, as well the Operations Area, shown in Figure 2-2.

Table 2-1: Coordinates of the Macedon Wells

Well	MGA50		GDA94	
	Easting (m)	Northing (m)	Latitude	Longitude
Macedon-7	212444.79	7612856.36	-21 33 50.797	114 13 24.173
Macedon-8A	209662.71	7611985.81	-21 34 17.460	114 11 47.008
Macedon-9	205759.68	7611430.81	-21 34 33.191	114 09 31.101
Macedon-10	206820.77	7612401.14	-21 34 02.297	114 10 08.567

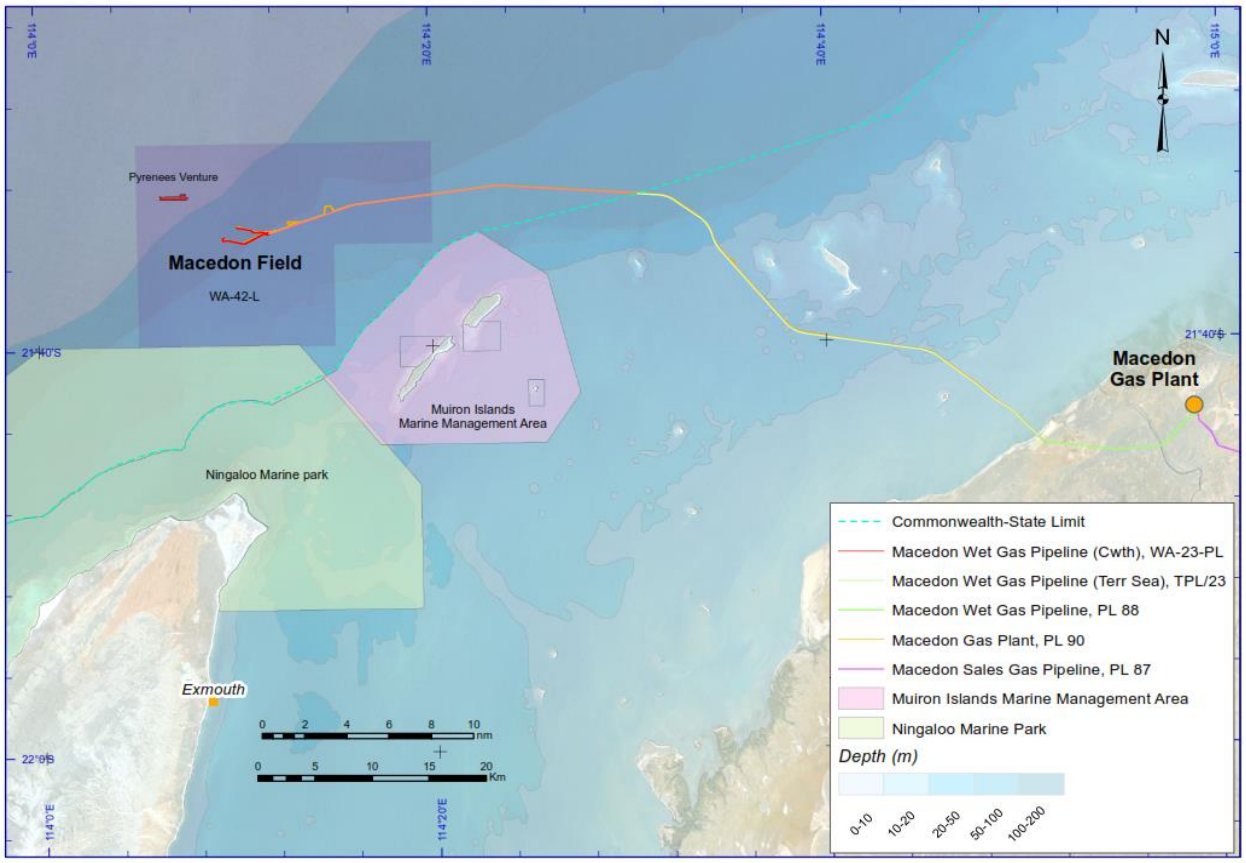

Figure 2-1: Macedon Gas Field location

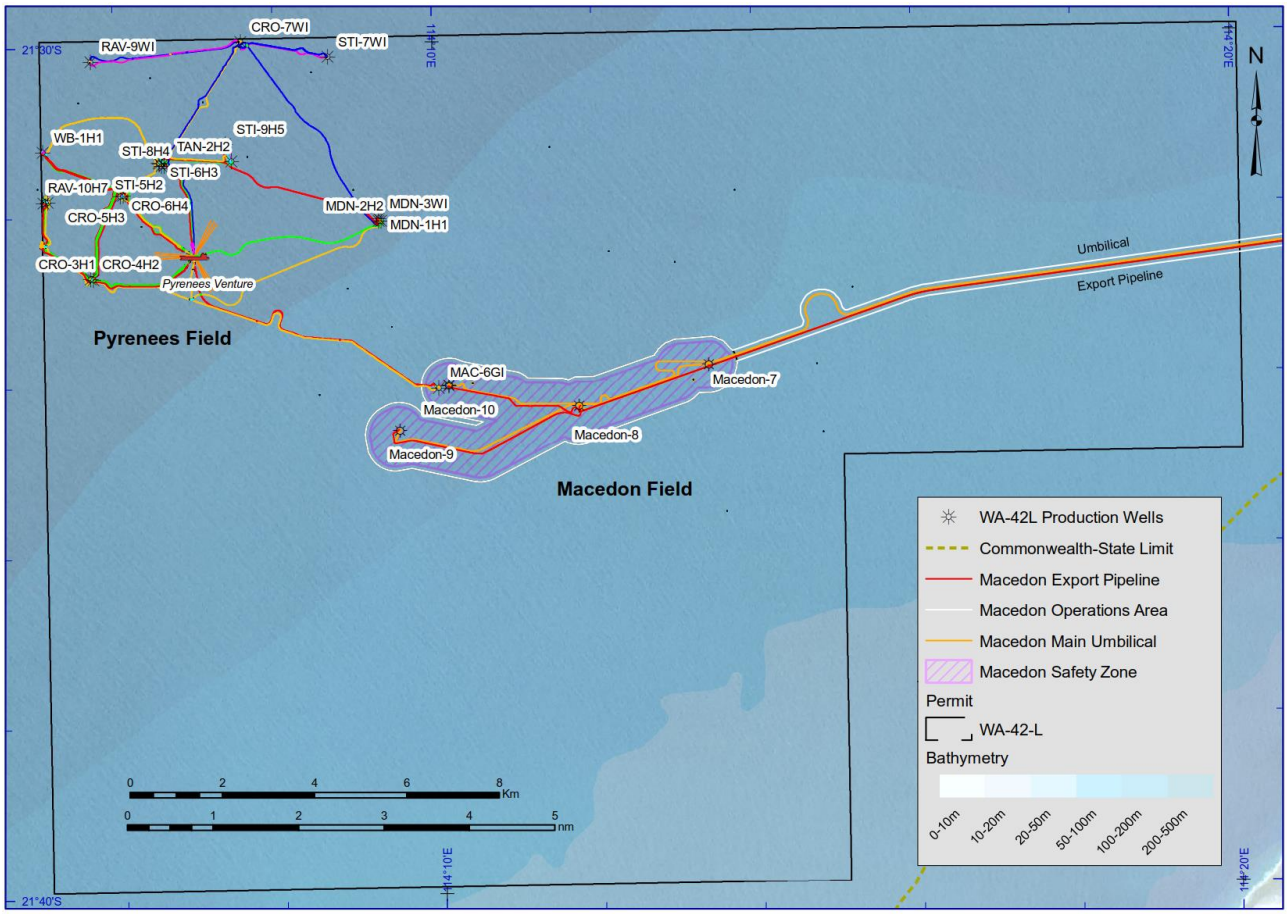

Figure 2-2: Macedon Infrastructure Layout and Operations Area

3 Description of the Activity

3.1 Timing of the Activity

The Macedon Operations was commissioned in 2013 and production is continuous with an expected operating life of 20 years. IMR activities are conducted on an 'as required' basis throughout the life of field.

3.2 Normal Operations

Well Operations Management Plan

The Macedon Well Operations Management Plan (WOMP) (MACPN-SO-0003) covers continuous well production activities leading to production cessation at end of economic field life in accordance with Part 5 of the OPGGS (Resource Management and Administration) Regulations 2011. End of economic production is expected during the period of validity of the WOMP. Production cessation activities including disconnection and isolation of wells from flowlines is anticipated to be undertaken within 3 to 6 months of last economic production, subject to mobilisation of identified subsea contractor and vessels.

Following subsea isolation, periodic inspections will be undertaken at frequencies dictated by the APU Subsea Integrity Management Plan, which calls for inspection frequency no greater than 5 yearly.

Well Control

The subsea well and facilities are remotely controlled via the umbilical from the central control room located at the onshore plant. Well control will involve intermittent discharges of small amounts (less than 3 m^3 per year) of water-based hydraulic fluid) used to actuate the wellhead valves on the four subsea wells. This will be the only planned operational discharge to the marine environment from the offshore infrastructure.

Pigging (operational)

Pigging is carried out on an as required basis determined by results of ongoing system analysis. The activity involves the attachment (via ROV) of a subsea pig launcher to the subsea manifold. Pigging via the subsea pig launcher displaces pipeline inventory back to the onshore plant, where it is appropriately processed and managed.

3.3 Inspections, Maintenance and Repair Activities

IMR activities will generally comprise a single campaign every year, with the precise frequency and timing dependent on monitoring and previous results. Typically, total vessel days on-site are expected to be no more than one to two weeks per year, depending on work task requirements.

Specific IMR activities that may occur over the duration of this EP include:

Inspections

- Visual inspections of subsea components, looking for damage, degradation, debris etc. - may involve ROVs, AUVs, or divers deployed from a vessel;
- Cathodic Potential (CP) readings, to confirm corrosion protection is working - involves ROVs taking CP field measurements;
- Multi-beam echo sounder survey – involves high frequency, vessel-mounted or towed multi-beamed echo sounder along the pipeline and/or umbilical;
- Sidescan sonar surveys – involves the use of high frequency, directional sonar towed along the pipeline route by a vessel; and
- ROV / pigging operations; internal inspection of pipeline – pigs launched via subsea infrastructure in Commonwealth Waters will pass through the production pipeline to the onshore gas pipeline. Received fluids or wastes will be captured onshore.

Maintenance

- Cathodic Protection (CP) maintenance - replacement/new CP sacrificial anodes may be installed on or adjacent (within the operational area) to infrastructure using a vessel and ROV or divers;
- Burial / deburial of pipeline and / or umbilicals;
- Removal/relocation of foreign objects – such as boulders, debris;
- Valve / choke replacement (e.g. on subsea trees);
- Control lead replacement installation (e.g. HFL / EFL / FOFL);
- Pipe spool replacement;
- Stabilisation/ span correction – may involve activities such as installation of grout bags or concrete mattresses, or burial/de-burial via jetting or suction techniques, using a vessel and ROV; and
- Marine growth/ scale removal from subsea wellheads/ trees using ROVs to water blast and/ or acid chemical wash (if required to facilitate removal).

Repair

- Removal / replacement of manifold (control and production);
- Removal/ replacement of anode assembly skid(s);
- Removal / replacement of umbilical – typically 'like for like' replacement undertaken using ROV from a vessel; and
- Pipeline / umbilical repairs - could involve the installation of structural clamps or high-pressure repair clamps. These activities are generally undertaken from a single vessel using ROV spread and possibly requiring lifting equipment. Divers and/or support from an additional vessel may be required.

The scheduling of periodic visits for maintenance activities is expected to occur coincident with inspection works wherever practicable and to involve one to two weeks annually, although this is dependent on weather conditions, operational specifics and/or downtime.

3.4 Vessels

Vessels used to support IMR activities may range in length from 35 m to 120 m, and include multi-purpose support vessels and dive support vessels. Typically, only a single vessel would be required to implement IMR activities. Infrequently, there may be a requirement (e.g. a minor repair) for more than one vessel.

Vessels operate 24-hours a day. It is anticipated that vessel time for routine inspection activities along the pipeline will involve no more than one to two weeks per year, depending upon operational requirements. Maintenance and repair activities may result in additional vessel time, depending on the scale and complexity of the work scope, but such activities are expected to be infrequent.

Vessels will generally use dynamic positioning (DP) to maintain position, although anchoring may be required depending on the activity, water depth, and vessel specifications. All vessels will use marine diesel oil or marine gas oil and will be provisioned in Port. There will be no refuelling on site. It is expected that all vessels sourced for IMR activities will have been previously operating on the North-West Shelf (NWS).

4 Description of the Receiving Environment

4.1 Area May Be Affected (AMBA)

To determine the spatial extent of the area that may be affected by Macedon Operations, stochastic hydrocarbon spill modelling was undertaken for the worst-case credible hydrocarbon spill scenario, i.e. a release of 100 m^3 of marine diesel resulting from a vessel collision.

4.2 Physical Environment

The permit area is located in the North West Marine Region (North West Province bioregion), as defined in the Marine Bioregional Plan for the North West Marine Region (link).

Water depth and sea floor composition of the region varies greatly: the flat inner shelf component (30-60 m) is characterised by sparse sandy substrata; the mid (60-200 m) and outer (200+ m) shelf sediments are comprised of sands and gravels on cemented hard ground which transition to muds in the deeper areas; and the continental slope (1000-3,000 m) is characterised by muddy sediments.

The province is a transitional zone between tropical and temperate marine species and has a high level of endemism in demersal fish communities on the slope. The Exmouth Plateau is the dominant topographical feature within the province and is an important feature as it modifies the flow of deep waters and contributes to uplifting of deeper, more nutrient-rich waters.

The region experiences an arid sub-tropical climate and a distinct summer monsoonal “wet” season from November to February followed by a typically cooler winter “dry” season. The climate is controlled by two major atmospheric pressure systems: Indian Tropical Maritime air moving in from the west or northwest, and the tropical continental air from the inland.

The region has a sub-tropical climate with a distinct summer monsoonal “wet” season from November to February followed by a typically cooler winter “dry” season. The northwest coast between Broome and Exmouth experiences on average about five tropical cyclones between November to April each year which generally traverse the region from the east-northeast, veering towards the south.

The region’s oceanography is strongly influenced by the warm, low salinity waters of the Indonesian Through Flow (ITF), which affects the upper 1,250 m of the water column. Surface currents vary seasonally: the Eastern Gyral Current intensifies during July-September; and the Leeuwin Current is strongest between March and May, and weaker between December and February. Tides in the region are semi-diurnal (i.e. there are two high tides and two low tides each day) and run on a north-east and south-west axis. Wind driven surface currents reflect the prevailing seasonal wind directions, which are predominantly from the south-west during summer and from the east, south-east and south during winter.

The average sea surface temperature within the area ranges from 20°C to 24°C during winter and 24°C to 28°C during summer. There is likely to be a distinct thermocline in deep offshore waters, associated with the warming influence of the Leeuwin current, which overlays colder, more saline, deeper ocean waters that vary seasonally. Salinity is relatively uniform at 35 parts per thousand (ppt).

4.3 Ecological Environment and Sensitivities

There are no World Heritage Properties or National Heritage Places in or adjacent to the Operations Area in permit area WA-42-L. No Indigenous or non-Indigenous heritage values have been identified in the Operations Area. There are not any Ramsar Wetlands or threatened ecological communities in or adjacent to the Operations Area. There are not any Commonwealth or State protected areas overlapping or in close proximity to the Operations Area. Two Key Ecological Features (KEFs) intersect with the Operations Area (

Table 4-1).

Table 4-1: Key Ecological Features in the Operations Area

Value / Sensitivity	Description
Ancient coastline at 125 m depth contour	Parts of the ancient coastline, particularly where it exists as a rocky escarpment, are thought to provide biologically important habitats in areas otherwise dominated by soft sediments. The topographic complexity of these escarpments may also facilitate vertical mixing of the water column, providing relatively nutrient-rich local environments.
Canyons linking the Cuvier Abyssal Plain and the Cape Range Peninsula	The canyons are associated with upwelling as they channel deep water from the Cuvier Abyssal Plain onto the slope. This nutrient-rich water interacts with the Leeuwin Current at the canyon heads. Aggregations of whale sharks, manta rays, fish and seabirds are known to occur in the area.

There are no significant coral reef structures within the Operations Area, with much of the substrate comprising sandy gravels with a low but variable cover of epibiota. The seabed fauna in the area is sparse and predominantly comprised of crustaceans and polychaetes (worms).

Unplanned events may affect the environment outside of the Operations Area including parts of the Ningaloo (recreational use zone) and Gascoyne (multiple use zone) Marine Parks (Cwlth) and the State Muiron Islands Marine Management Area and State Ningaloo Marine Park.

The ecological and social values of the Ningaloo Coast and Muiron Islands have been recognised by UNESCO and can be found in the World Heritage listing (external link). The Ningaloo and Gascoyne Marine Parks have a diverse range of values and sensitivities which are described in full in the North-West Network Management Plan 2018 (external link).

There are 28 marine species listed as threatened under the Environment Protection and Biodiversity Conservation (EPBC) Act that may occur, or their habitat may occur, within the wider area, with most of these also listed as migratory under the Act (Table 4-2). An additional 27 listed migratory species may occur, or their habitat may occur, within the wider area. One Conservation Dependent species may occur within the Operations Area and wider AMBA. Recognised Biologically Important Areas (BIA) for 7 species intersect with the Operations Area, with unplanned events potential overlapping with a further 4 BIAs. The Operations Area and wider AMBA also intercepts draft critical habitat for 4 four marine turtle species.

Table 4-2: Threatened and Migratory Marine Species under the EPBC Act Potentially Occuring within the Operations Area and/or Wider AMBA

Common Name	Scientific Name	Threatened Status	Migratory
Marine Mammal Species			
Sei whale	*Balaenoptera borealis*	Vulnerable	✓
Pygmy blue whale	*Balaenoptera musculus*	Endangered	✓
Fin whale	*Balaenoptera physalus*	Vulnerable	✓
Southern right whale	*Eubalaena australis*	Endangered	✓
Humpback whale	*Megaptera novaeangliae*	Vulnerable	✓
Fish and Shark Species			
Grey nurse shark	*Carcharias taurus* (west coast population	Vulnerable	✓
Great white shark	*Carcharodon carcharias*	Vulnerable	✓

Common Name	Scientific Name	Threatened Status	Migratory
Whale shark	*Rhincodon typus*	Vulnerable	✓
Dwarf sawfish	*Pristis clavata*	Vulnerable	✓
Green sawfish	*Pristis zijsron*	Critically Endangered	✓
Scalloped hammerhead shark	*Sphyrna lewini*	Conservation Dependent	x
Marine Reptile Species			
Loggerhead turtle	*Caretta caretta*	Endangered	✓
Green turtle	*Chelonia mydas*	Vulnerable	✓
Leatherback turtle	*Dermochelys coriacea*	Endangered	✓
Hawksbill turtle	*Eretmochelys imbracata*	Vulnerable	✓
Flatback turtle	*Natator depressus*	Vulnerable	✓
Short-nosed seasnake	*Aipysurus apraefrontalis*	Critically Endangered	x
Protected Bird Species			
Red knot	*Calidris canutus*	Endangered	✓
Curlew sandpiper	*Caldris ferruginea*	Critically Endangered	✓
Southern giant petrel	*Macronectes giganteus*	Endangered	✓
Eastern curlew	*Numenius madagascariensis*	Critically Endangered	✓
Australian fairy tern	*Sternula nereis nereis*	Vulnerable	x
Bar-tailed godwit	*Limosa lapponica baueri*	Vulnerable	✓
Northern Siberian bar-tailed godwit	*Limosa lapponica menzbieri*	Critically Endangered	✓
Soft plumaged petrel	*Pterodroma mollis*	Vulnerable	x
Shy albatross	*Thalassarche cauta cauta*	Vulnerable	✓
White-capped albatross	*Thalassarche cauta steadi*	Vulnerable	✓
Campbell albatross	*Thalassarche impavida*	Vulnerable	✓
Black-browed albatross	*Thalassarche melanophris*	Vulnerable	✓

4.4 Socio-Economic and Cultural Heritage

There are no known sites of Indigenous or European cultural or heritage significance, or historic shipwrecks, within the Operations Area. Sites of cultural significance, including shipwrecks, occur within the wider area that may be affected by the worst-case unplanned spill event or spill response activities.

The wider region includes State commercial fisheries from the North Coast and Gascoyne bioregions and whole of state fisheries, and three Commonwealth commercial fisheries, with activity in two Commonwealth and one State managed fishery potentially overlapping with the Operations Area.

The catch of these fisheries includes a variety of crustacean and mollusc species, as well as pelagic, demersal and reef fish species. Fishing methods utilised include (but are not limited to) nets, longline, gillnet, trawling, and diving.

The region supports significant commercial shipping activity, the majority of which is associated with the oil and gas industry. There are several oil and gas production areas located in proximity to the Macedon Field, including BHP's Pyrenees development. Other oil and gas activities in the region include Griffin, Vincent, Enfield, Stybarrow and Van Goh fields, as well as production areas located on Barrow, Thevenard and Varanus Islands. The Macedon Field within Petroleum Licence WA-42-L lies outside of declared and charted shipping fairways. The nearest shipping route heading northeast is approximately 45 km from the Operations Area.

There are not any known tourism activities within or adjacent to the Operations Area. The wider area hosts substantial recreational fishing activity which makes up a significant component of the regions tourism, and the Ningaloo /Shark Bay World Heritage Area attracting thousands of tourists annually. The nearest population centres to the BHP's production licence are the towns of Onslow (~100 km) and Exmouth (~40 km).

5 Environmental Impacts and Risks

5.1 Evaluation of Impacts and Risks

A risk analysis was completed to identify the potential environmental impacts and risks associated with the activity and the control measures required to manage these impacts and risks to as low as reasonably practicable (ALARP) and an acceptable level. This risk assessment and evaluation process was consistent with the procedures outlined in the Australian and New Zealand Standards AS/NZS ISO 31000:2018 (Risk Management) and BHP's Risk Management Framework.

An Environmental Hazard Identification (ENVID) process was undertaken to identify the impacts and risks of each environmental aspect and source of hazard for the activity. The objective of the assessment was to develop an understanding of the impacts and risks, demonstrate its reduction to ALARP and demonstrate its acceptability to BHP. It provided definition on the decisions made during the ENVID process, taking into account the detailed impact assessment for the sources of hazard, the controls chosen to reduce or prevent the impact or risk and why some controls were not chosen. This also involved consideration of the sources of risk, their positive and negative consequences and the likelihood that those consequences may occur.

The ENVID process considered both planned (routine and non-routine) and unplanned (accidents/incidents) impacts with variation on how each of these impacts or risks was assessed through to ALARP and acceptability.

The ENVID assessment was conducted as a workshop with a range of personnel from different disciplines including Operations, HSE, Government Relations, Field Operations Manager, and Surface and Subsea Engineering. Decisions made within the ENVID included:

- Confirmation of the sources of hazard identified;
- Identification of all potential controls and their acceptance through an ALARP process;
- Allocation of likelihood rating for an unplanned source of hazard;
- Severity rating for all sources of hazard; and
- Final acceptability of the impact or risk to BHP using the acceptability criteria.

The outcome of the assessment process illustrated in Figure 5-1 is summarised in Section 5.2.

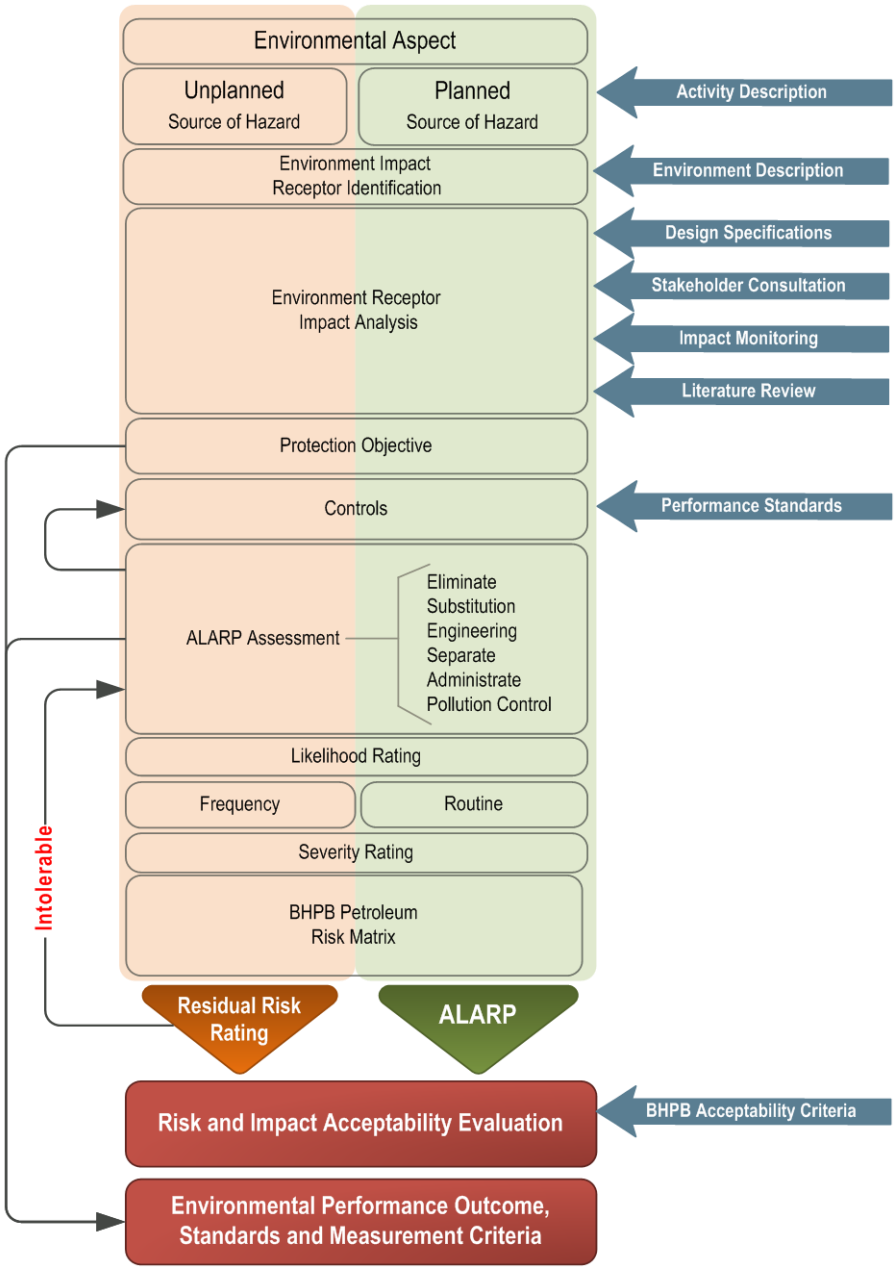

Figure 5-1: Environment Plan Integrated Impact and Risk Assessment

5.1.1 Environmental Impact Assessment

The environmental impacts were based on the environmental receptors identified in Section 4 with the impact descriptions developed in an initial screening process that identified the specific receptor that may be impacted. Further quantitative or qualitative definition of the impact was then completed to ensure an understanding of the impact (planned or unplanned) to confirm that the severity of the risk and impact was correctly assigned during the evaluation process.

5.1.2 Demonstration of ALARP

Regulation 10A(b) of the OPGGS (Environment) Regulations 2009 requires demonstration that the environmental impacts and risks of the activity will be reduced to as low as reasonably practicable (ALARP).

Determining whether risks have been reduced to ALARP requires an understanding of the nature and cause of the risk to be avoided and the sacrifice (in terms of safety, time, effort and cost) involved in avoiding that risk. The hierarchy of decision tools (from lowest risk to highest risk) has been adapted from the UKOOA *Framework for Risk Related Decision Support*[1] is:

- Codes and Standards;
- Good Oilfield Practice;
- Professional Judgement;
- Risk-based Analysis;
- BHP Values; and
- Societal Values.

A summary of the application of these decision tools and protocols in relation to the different categories of risk is presented in Table 5-1.

Table 5-1: Summary of Risk Ratings, Decision-Making Tools and Decision-Making Protocols

Risk Rating	Decision-Making Tool	Decision-Making Protocol
Tolerable	Comparison to codes and standards, good oilfield practice and professional judgement are used to determine risk acceptability.	If the environmental impact (for planned activities) was found to be "Low" or the environmental risk (for unplanned events) was found to fall with the "Tolerable" zone and the control measures are consistent with applicable standards and 'good oilfield practice' then no further action is required to reduce the impact or risk further. However, if a control measure that would further reduce the impact or risk is readily available, and the cost of implementation is not disproportionate to the benefit gained, then it is considered 'reasonably practicable" and should be implemented.
ALARP Zone	In addition to comparisons with codes and standards, good oilfield practice and professional judgement, risk-based analyses are used to determine risk acceptability.	If the environmental impact (for planned activities) was found to be "Minor" or the environmental risk (for unplanned events) of the hazard has been found to fall within the "ALARP Zone" then an iterative process to identify alternative/additional control mechanisms will be conducted to reduce the risk to the "Tolerable" zone. However, if the risk associated with a hazard cannot be reasonably reduced to the "Tolerable" zone without grossly disproportionate sacrifice (e.g. cost, time, resources and safety); then the mitigated environmental risk is considered to be ALARP and Tolerable.
Intolerable	All of the above decision making tools apply combined with consideration of BHP corporate values and societal values.	If the environmental impact (for planned activities) was found to be "Serious" or more severe or environmental risk of the hazard has been found to fall within the "Intolerable" zone then the source of hazard will need additional barriers and is not acceptable to BHP in the current condition. Work to reduce the level of risk should be assessed against the precautionary principle with the burden of proof requiring demonstration that the risk has been reduced to the ALARP Zone before the activity can commence.

The ALARP assessment process primarily considers good engineering plus industry practice and legal requirements as key factors affecting the acceptability of a risk. Other factors such as physical constraints,

[1] UKOOA. (2014). Guidance on Risk Related Decision Making. Issue 2. Oil & Gas, UK. London. 25 pp.

stakeholder perceptions, asset protection and the interaction between environmental and safety risk is also considered as part of the overall decision-making process.

The risk assessment approach described above implies a level of proportionality wherein the principles of decision-making applied to each particular hazard are proportionate to acceptability of environmental risk of that hazard. The decision-making principles for each level risk are based on the precautionary principle (as defined in the EPBC Act) and provide assurance that the environmental impacts and risks are reduced to ALARP and of an acceptable level.

All environmental risks and associated sources of hazard in this EP have been assessed through a tailored ALARP assessment that presents all identified controls in a hierarchal framework. All of the risks associated with the Macedon Operations and IMR activities correspond to Type A Decisions according to the UKOOA Guidance (UKOOA, 2014)[2], which indicates they do not represent anything new or unusual, the risks are well understood, the adopted control measures represent established good oilfield practice and there are no conflict with BHP corporate values or major stakeholder implications.

The general preference is to accept controls that are ranked in the Tier 1 categories of Eliminate, Substitute, Engineering and Separate as these controls provide a preventive means of reducing the likelihood of the hazard occurring. Tier 2 categories reduce the potential consequence of the impact or risk. This ranking of controls was considered during the determination of ALARP and the impact and risk acceptance process.

The ALARP process undertaken considers all possible controls for both planned and unplanned impacts and risks, analyses of risk reduction (prevent or mitigate) proportional to the benefit gained and their final acceptance as a control or rejection and reasoning as to why.

The hierarchy of controls applied in the EP are defined below and are in order of preference:

- Tier 1:
    - Eliminate – Remove the source preventing the impact, i.e. eliminate the hazard;
    - Substitution – Replace the source preventing the impact;
    - Engineering – Introduce engineering controls to prevent or control the source having an impact;
    - Separate – Separate the source from the receptor preventing impact;
- Tier 2:
    - Administrate – Procedures, competency and training implemented to minimise the source causing an impact;
    - Pollution Control – Implement a pollution control system to reduce the impact;
    - Contingency Planning – Mitigate control reducing the impact; and
    - Monitoring – Program or system used to monitor the impact over time.

The controls associated with each of the risks for planned and unplanned events of the activity, along with those for the response strategies proposed in the unlikely event of an oil spill, were assessed taking into consideration the potential environmental benefit gained if the control was implemented compared with the practicability of its implementation. If the control had high effectiveness (Availability, Functionality, Reliability, Survivability, Independence/Compatibility) and were practicable to implement, i.e. there was no disproportionate cost/time/safety/effort sacrifice, then the control was adopted. Similarly, if the controls were not practicable, i.e. the cost, time and effort to implement the control was grossly disproportionate to the benefit gained, then the control was rejected.

5.1.3 Demonstration of Acceptability

Regulation 10A(c) of the OPGGS (Environment) Regulations 2009 requires demonstration that the environmental impacts and risks of the activity will be of an acceptable level.

[2] Op cit 1.

The process used to determine acceptability is as follows:

- Tolerable residual risks are 'Acceptable', if they meet legislative requirements, codes and standards, good industry practice and professional judgement; and
- ALARP residual risks are ‘Acceptable’ if ALARP can be demonstrated using risk based analysis in addition to legislative requirements, codes and standards, good industry practice and professional judement.

In addition, BHP evaluates the following criteria for all Tolerable and ALARP residual risks:

- Principles of Ecological Sustainable Development (ESD) as defined under the EPBC Act;
- Internal context - the proposed controls and residual risk level to be consistent with BHP Policy and HSE Management System; and
- External context – consideration of the environmental best practice and stakeholder views.

Intolerable residual risks are not acceptable. The source of hazard requires additional barriers and is not acceptable to BHP in the current condition.

5.2 Risk and Impact Assessment

The environmental aspects and sources of risk identified during an ENVID assessment were divided into planned (i.e. routine operations) and unplanned (i.e. incidents) activities. A total of 8 planned and 4 unplanned activities were identified that had an associated potential source of risk that may have an environmental impact requiring risk assessment and evaluation.

Table 5-2: Summary of the key environmental hazards/ risks and control measures for Planned Activities

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Mitigation Measures		Residual Risk Rating
			Control	Effectiveness of Control	
Interaction with other marine users	Presence of subsea infrastructure and interactions with other users of the sea while undertaking vessel activities in the Operations Area.	Commercial fisheries and shipping activities restricted from entering a safety zone around the well field. Temporary loss of small part of fishing area or deviation from normal course to avoid area/vessels.	Navigation, bridge and communication equipment compliant with appropriate marine navigation and vessel safety and requirements. Vessel bridge-watch crew on duty 24 hours and qualified in accordance with International Conventions. Gazetted 500 m safety exclusion zone and 5 nm radius Cautionary Area on nautical charts. Notifications to marine safety authorities and other marine users.	Ensure other marine users are aware of the presence of the vessels and are provided with information on timings of the activity, so that the maritime industry is aware of the petroleum activities.	Tolerable
		Damage and/ or loss of fishing gear due to gear snagging on subsea infrastructure.	Notifications to marine safety authorities and other marine users. Consultation with stakeholders including regular Community Reference Group (CRG) meetings include commercial and recreational fishing group representatives.	Onsite vessel interactions managed with Stakeholders to minimise potential interference to fishing activites.	Tolerable
Seabed disturbance	Seabed disturbance from subsea infrastructure and vessel activities in the Operations Area.	Small area of direct damage to seabed and associated communities. Temporary increase in local turbidity. Impact mitigated by ubiquitous distribution of similar habitat in the region. No sensitive seabed features have been identified in any of the surveys conducted within the Operations Area or in similar water depths within the permit area.	Vessel/s not permitted to anchor onsite during IMR activities. If anchoring required, BHP Macedon anchoring procedures and mooring analysis will be undertaken.	IMR vessels will use dynamic positioning systems to maintain position, rather than anchoring. In unlikely event anchoring required, BHP Macedon anchoring procedures and mooring analysis will be undertaken for selection of anchoring location.	Tolerable
	Dropped objects from vessels.		Recovery of dropped objects where practical to do so and when recovery will provide a net environmental benefit.	Avoids long term changes to seabed.	Tolerable

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Mitigation Measures		Residual Risk Rating
			Control	Effectiveness of Control	
			Work (lifting/ operating) procedures.	Minimise risks of dropped objects during lifting activities.	Tolerable
Noise emissions	Noise emissions from vessel activities, ROV surveys or other inspection/ intervention activities in the Operations Area.	Noise radiated underwater can cause marine fauna to take avoidance measures thereby causing disruption to normal behaviours. Noise interference from anthropogenic noise sources including industrial noise and vessels is identified as a potential threat to marine turtles in the Recovery Plan and the Approved Conservation Advice for humpback whales. No recognised breeding or resting area for cetaceans, turtles or shark species are known to occur in the area potentially impacted by noise emissions, although a Operations Area intercepts draft critical habitat for marine turtles, whale shark foraging BIA and humpback whale migration BIA so individuals are expected to pass through the area.	Vessel Masters to operate vessels in accordance with the EPBC Regulations 2000 Part 8 Division 8.1 (Regulation 8.05) Interacting with Cetaceans (modified to include turtles and whale sharks) to avoid interactions with cetaceans, whale sharks and turtles. Vessels will not knowingly travel greater than 6 knots within 300 m of marine megafauna (caution zone) or approach closer than 100 m for a large whale or whale shark, or 50 m of a dolphin or turtle (with the exception of bow riding). Environmental awareness induction provided to vessel crew to advise marine fauna interaction requirements. Stakeholder complaint register and annual review process.	Procedure for interacting with marine fauna, reduces risk of physical and behavioural impacts to marine fauna from vessels and associatied activities.	Tolerable
			Noise emitting machinery/ equipment will be appropriately maintained to prevent excessive noise emissions.	Reduces the level of noise emissions to acceptable levels.	Tolerable
Light emissions	Artificial light from vessels and ROVs	The environmental risk is the light spill/ glow causing alterations to normal marine fauna behaviour whereby they are attracted to and/ or disorientated by the light from the vessels. The species with greatest sensitivity to light are turtles.	Compliance with EPBC Act 1999 – Referral Decision December 2009 (EPBC 2008/4065) Conditions in relation lighting on vessels: • External lighting on all vessels will be minimised to that required for safety of navigation and safety of deck operations.	Ensures lighting on vessels is ALARP and minimised to that required for safety of navigation and safety of deck operations.	Tolerable

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Mitigation Measures		Residual Risk Rating
			Control	Effectiveness of Control	
Atmospheric emissions	Emissions from vessels, ROV survey or other inspection/ intervention activities. Emissions from vessel engines, generators and mobile/fixed plant and equipment. Non-hazardous solid waste incineration.	Atmospheric emissions generated during the vessel activities will result in a localised, temporary reduction in air quality in the environment immediately surrounding the discharge point and contribute to the global greenhouse effect. Gaseous emissions under normal circumstances quickly dissipate into the surrounding atmosphere. Vessel activities are located in an area where air emissions will disperse and rapidly assimilate with the surrounding environment.	Vessels will hold a current International Air Pollution Prevention Certificate, indicating that they meet the requirements of MARPOL Annex VI. Vessel engines will meet NOx emission levels as required by Regulation 13 of MARPOL Annex VI. Marine-grade, low sulphur diesel will be used (not heavy fuel oil).	Reduces probability of potential impacts to air quality due to ODS emissions, high NOx, SOx emissions.	Tolerable
			Ozone-depleting substances (ODS) will be managed in accordance with international standards.	Reduces probability of potential impacts to air quality due to ODS emissions.	Tolerable
Vessel discharges	Routine Discharges from Vessels including, sewage, grey water, cooling water, food waste.	Localised and temporary change in water quality surrounding discharge point – increase in nutrients, increase in salinity. Minor increase in water temperature. Potential for acute toxicity effects to marine biota. Potential water quality impacts leading to bioaccumulation and toxicity to biota immediately adjacent to vessels.	Current International Sewage Prevention Pollution. Routine liquid waste discharges will comply with Australian standards and international maritime conventions. Putrescible and other food waste discharge from the vessels must be ground or comminuted to <25 mm and discharged only when >3 nm from the territorial baseline. Environmental awareness induction provided to vessel crew prior to activities to advise waste management requirements.	Sewage treatment system reduces potential impacts of inappropriate discharge of sewage. Ensures vessels compliance with MARPOL requirements (vessel discharges).	Tolerable
			Where Offshore Chemical Notification Scheme (OCNS) rating of D or E or a CHARM rating of Silver or Gold rated chemicals are used, no further control required.	Chemical selection aids in the process of chemical management that reduces the impact of discharges to sea. Only environmentally acceptable chemicals are used.	Tolerable

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Mitigation Measures		Residual Risk Rating
			Control	Effectiveness of Control	
			If other non-rated chemicals are required, chemical selection procedures described in BHP Hazardous Materials Acquisition Environmental Supplement Procedure will be followed.		
	Deck Drainage.	Detergent, oil and grease discharge to marine environment during rainfall or wash-down activities.	Current International Oil Pollution Prevention certificate for oily water filtering equipment onboard vessel. Liquid from drains may only be discharged if the oil in water content does not exceed 15 ppm after treatment in a MARPOL-compliant oily water filter system. Fuels, oils and hazardous chemicals must be stored with secondary containment. Scupper plugs or equivalent deck drainage control measures available where chemicals and hydrocarbons are stored and frequently handled.	Drainage from areas of a high risk of hydrocarbon or chemical contamination will be managed via a closed drainage system that drains to a slops tank with an automated Oil in Water sensor to ensure that it has an oil content of less than 15 ppm prior to overboard discharge, otherwise it will be sent to shore for disposal. Reduces potential impacts of planned discharge of oily water to the environment. Ensures compliance with MARPOL requirements regarding oily water.	Tolerable
Waste management	Waste (hazardous and non-hazardous) generated by miscellaneous vessel activities.	Improper management of wastes may result in pollution and contamination of the environment. There is also the potential for secondary impacts (ingestion and/ entanglement) on marine fauna that may interact with wastes such as packaging and binding materials, should these enter the ocean.	Waste management plan implemented, including preventative and mitigating controls. Waste stored in clearly marked and covered waste containers prior to transfer to onshore licence waste disposal facility for recycling, disposal or treatment.	Waste management plan reduces probability of garbage being discharged to sea, reducing potential impacts to marine fauna. Stipulates putrescible waste disposal conditions and limitations. Ensure compliance with MARPOL requirements.	Tolerable
	Loss of non-hazardous solid waste (rubbish) overboard.	Accidental loss overboard of single items or units of waste may impact the environment through a reduction in water quality, or present a hazard to	Waste bins have covers to reduce the potential for rubbish overboard.	Waste management practices, crew education and reportiing reduce the potenitial loss of non-	Tolerable

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Mitigation Measures		Residual Risk Rating
			Control	Effectiveness of Control	
		marine fauna, depending on the waste involved.	Environmental awareness induction to include BHP requirements for waste management. Any loss or discharge to sea of harmful materials is to be reported to the AMSA Rescue Coordination Centre.	hazardous waste (rubbish) overboard.	
Planned subsea discharges	Planned subsea discharge of control fluids during normal operation of production well and during IMR activities.	Release of small volumes of control fluids into the marine environment. Any reduction in water quality is expected to be short-term (hours) and localised (to within a few metres of the discharge point) given the small volumes, and the dispersive nature of the offshore, and water depth of Operations Area.	Where Offshore Chemical Notification Scheme (OCNS) rating of D or E or a CHARM rating of Silver or Gold rated chemicals are used, no further control required. If other non-rated chemicals are required, chemical selection procedures described in BHP Hazardous Materials Acquisition Environmental Supplement Procedure will be followed.	Chemical selection aids in the process of chemical management that reduces the impact of discharges to sea. Only environmentally acceptable chemicals are used.	Tolerable

Table 5-3: Summary of the key environmental hazards/ risks and control measures for Unplanned Activites

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Controls – Mitigation Measures	Effectiveness of Control	Residual Risk Rating
Unplanned Interference to Fauna	Presence of vessel, ROV, AUV or other inspection/ intervention activities.	Interference with marine fauna movements. Potential for migratory species to be diverted from following normal migratory route.	Environmental awareness induction provided to all marine crew to advise marine fauna interaction requirements.	Procedure for interacting with marine fauna, reduces risk of physical and behavioural impacts to marine fauna from vessels and associatied activities.	Tolerable
	Collision of vessels with marine fauna.	Potential lethal impact or harm to protected species from collision. The risk assessment has identified speed of movement and observation effort as the two key variables affecting probability of collision that are under control of BHP.	Vessel Masters to operate vessels in accordance with the EPBC Regulations 2000 Part 8 Division 8.1 (Regulation 8.05) to avoid interactions with cetaceans and whale sharks. • Vessels will not knowingly travel at speeds >6 knots within 300 m of a whale/ whale shark, 150 m for a dolphin (50 m for a turtle) (caution zone). • Vessels will not knowingly approach closer than 100 m for a whale/ whale shark, or 50 m for a dolphin, and 25 m for a turtle. • A lookout for these fauna will be posted, if there is more than 1 person on the vessel, within the relevant caution zones. • If the cetacean/whale shark shows signs of being disturbed, the vessel will immediately withdraw from the caution zone at a constant speed of less than 6 knots. • Sightings of cetaceans, whale sharks and turtles will be reported and reported to the Vessel Master. • Vessels must move at a constant slow speed and with minimal noise away from a cetacean that is approaching so that the vessel remains at least 300 m from the cetacean. Sightings of cetaceans and whale sharks to be recorded by crew and reported to DoEE annually.	Reduces injury or mortality to marine fauna as a result of vessel collision. Speed is managed by application of Part 8 of the EPBC Regulations 2000. Effort of observation is managed by induction of bridge crew.	Tolerable

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Controls – Mitigation Measures	Effectiveness of Control	Residual Risk Rating
			Vessels Masters to apply additional vessel management considerations (increased no approach distances, avoiding resting / feeding whales or whales with calves) for cetaceans as described in the Australian National Guidelines for Whale and Dolphin Watching (2017) during humpback migration period. Injury or death of any marine fauna species listed as threatened or migratory under the EPBC Act reported to NOPSEMA.		
Unplanned Hydrocarbon or Hazardou Chemical Spills and Unplanned Leaks from Subsea infra-structure	Accidental leaks from storage and equipment, including ROVs	Localised decrease in water quality causing toxicity/ oiling of marine receptors.	Vessels to have a current International Oil Pollution Prevention certificate for oily water filtering equipment. All oily water exceeding 15 ppm must be contained and disposed of at a licensed onshore reception facility or to a carrier licensed to receive waste. Liquids from drains may only be discharged if the oil-in-water content does not exceed 15 ppm after treatment in a MARPOL-compliant oily water filter system. Continuous bunding or drip trays are used around machinery or equipment with the potential to leak chemicals/ fuel. Any loss or discharge to sea of harmful materials to be report to the AMSA Rescue Coordination Centre (RCC). Scupper plugs or equivalent deck drainage control measures available where hazardous chemicals and hydrocarbons are stored and frequently handled. Hazardous waste materials are contained onboard for onshore disposal at a licensed reception facility or to a carrier licensed to receive waste. Fuels, oils and hazardous chemicals must be stored with secondary containment at least 110% of largest single waste container.	Hazardous chemical management procedures reduces the risk of spills and leaks (discharges) to sea by controlling the storage, handling and clean-up.	Tolerable

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Controls – Mitigation Measures	Effectiveness of Control	Residual Risk Rating
			Critical hoses outside bunded areas are identified and regularly inspected/ maintained/replaced as part of the Preventative Maintenance System.		
			Vessels will have current MARPOL-compliant Shipboard Oil Pollution Emergency Plan (SOPEP) and Shipboard Marine Pollution Emergency Plan (SMPEP - for noxious liquid) – the latter may be combined with a SOPEP. All shipboard hazardous liquid, chemical and hydrocarbon spills and leaks will be managed in accordance with the SOPEP/ SMPEP. Spill clean-up equipment is located where hydrocarbons and hazardous chemicals are frequently handled.	Implements response plan for the effective management of an accidental hydrocarbon spill (discharge to sea) in order to reduce impacts to the marine environment.	Tolerable
	Accidental releases/ leaks of production fluids/gas or umbilical fluids from subsea infrastructure	Localised decrease in water quality causing localized toxicity to marine receptors.	Where Offshore Chemical Notification Scheme (OCNS) rating of D or E or a CHARM rating of Silver or Gold rated chemicals are used, no further control required. If other non-rated chemicals are required, chemical selection procedures described in BHP Hazardous Materials Acquisition Environmental Supplement Procedure will be followed.	Chemical selection aids in the process of chemical management that reduces the impact of discharges to sea. Only environmentally acceptable chemicals are used.	Tolerable
			Control Systems in place including alarms and shutdown values to shut-in thereby reducing spill risk from wells and pipeline.	Risk-based program of on-going inspection, monitoring and maintenance/repair of the well head and pipeline takes places to provide assurance of ongoing integrity.	Tolerable
Unplanned Diesel Spill from Bulk Storage due	Diesel spill from ruptured fuel tank due to vessel collision.	Contamination / pollution of water column potentially causing localised acute toxic response.	Navigation, bridge and communication equipment will be compliant with appropriate navigation and vessel safety requirements. Navigational aids (AIS).	Reduces accidental release of environmentally hazardous chemicals or refined oil to the marine environment.	Tolerable

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Controls – Mitigation Measures	Effectiveness of Control	Residual Risk Rating
to Vessel Collision			Crew undertaking vessel bridge-watch will be qualified in accordance with International Convention of STCW95, AMSA Marine Order - Part 3: Seagoing Qualifications or certified training equivalent. Maintain a 500 m exclusion zone around subsea infrastructure and 5 nm Cautionary Area over Field. Notification of location, duration of activities, etc. to AMSA Rescue Coordination Centre (RCC), which triggers RCC to issue an AusCoast Warning, and to the Australian Hydrographic Service (AHS) who will issue a 'Notice to Mariners'. Establish and maintain a Community Engagement Program by regularly meeting with the CRG. Implement and maintain vessel MARPOL-compliant SOPEP. Bridge-watch on all vessels to be maintained 24-hours per day. Develop and maintain BHP Macedon Operations OPEP. Implement Response strategies as per OPEP (refer to r: *Section* 7 - *Oil Pollution Emergency Plan Summary)*.	Implements response plan for the effective management of an accidental hydrocarbon spill (discharge to sea) in order to reduce impacts to the marine environment. Ensures compliance with MARPOL requirements.	
Introduced Marine Species	Movement of vessels from known high introduced marine species risk areas.	Biofouling on vessel hulls and other external niche areas pose a potential risk of introduced marine species in Australian waters. Under the Commonwealth Government's National Biofouling Management Guidelines a risk assessment approach is	Vessels sourced from outside the North West Bioregion complete an IMS risk assessment, before mobilisation to operational area, as described in Introduced Marine Species Management Procedure (AOHSE-E-0018). The IMS risk assessment assigns a final risk category of low, moderate or high) to vessels based on a range of information including last port of call, age of antifouling coating etc. If a risk category of moderate or high is scored, a range of management options are available including inspections, cleaning or treatment of internal seawater systems.	Reduces the risk of introducing IMS due to assessment procedure.	Tolerable

Aspect	Environmental Hazard/ Risk	Potential Environmental Impact	Controls – Mitigation Measures	Effectiveness of Control	Residual Risk Rating
		applied to manage biofouling.	Ballast water management in accordance with the Australian Ballast Water Management Requirements, Version 7.	Reduces the risk of introducing IMS through procedures managing ballast water exchange and identifying high risk ballast water.	Tolerable
Loss of Well Control (LOWC)	The removal and loss of the Macedon subsea tree with a full failure of the SCSSV to close, renders the well flowing unrestricted to the seabed.	Contamination / pollution of water column potentially causing localised acute toxic response.	Macedon Well Operations Management Plan (WOMP): MACPN-SO-000 includes preventative measures for well control.	Reduces the risk of LOWC through control measure for well integrity and well control.	Tolerable
	LOWC through leakage through closed valves following flowline/small bore fitting damage/failure.		Maintain an exclusion zone around the wells with a minimum distance of 500 m. Notification of details (e.g. location, duration of activities, etc.) of IMR activities (>7 days duration) to AMSA which triggers issue of Maritime Safety Information (MSI) notifications and to the Australian Hydrographic Service (AHS) which will issue a 'Notice to Mariners'.	Ensure other marine users are aware of the presence of the vessels and are provided with information on timings of the activity, so that the maritime industry is aware of the petroleum activities.	Tolerable
			Develop and maintain BHP Macedon Operations OPEP. Implement Response strategies as per OPEP (refer to *Section* 7 - *Oil Pollution Emergency Plan Summary)*.	Implements response plan for the effective management of an accidental hydrocarbon spill (discharge to sea) in order to reduce impacts to the marine environment.	

6 Monitoring and Reporting of Environmental Performance

The environmental performance of Macedon Operations will be reviewed in a number of ways in order to:

- Ensure all significant environmental aspects of the activity are covered in the EP;
- Ensure that management measures to achieve environmental performance outcomes are being implemented, reviewed and where necessary amended;
- Ensure that all environmental commitments have been met before completing the activity;
- Ensure that impacts and risks will be continuously identified and reduced to ALARP; and
- Identify potential non-conformances and opportunities for continuous improvement.

BHP conduct reviews and audits of their contractors at various stages BHP standards. The environmental performance of contractors to BHP involved in IMR activities will be reviewed through activities including (but not necessarily limited to) the following:

- Inspections of contractors HSE management systems and procedures;
- Pre-activity audits (i.e. vessels);
- Scheduled audits and inspections during the activity;
- Review of reporting documentation;
- Monitoring of progress;
- Auditing and assurance program;
- Regular review of incident, audit, inspection, observation, safety meeting and daily operations reports; and
- End of activity reports.

Unplanned and unauthorised non-conformances will be notified, investigated and reported in accordance with BHP's Incident Management procedures.

For the duration of Macedon Operations and an additional 5 years thereafter, BHP will store records and reports such as, but not limited to the following:

- External communications (e.g. stakeholder consultation logs, reporting of incidents);
- Training and competency assessments;
- Emissions and discharges reports (e.g. ODS Record Book, Garbage Record Book, Envirosys Records; National Pollutant Inventory Report);
- Cetacean and whale shark sighting datasheets;
- Environmental Performance Reports;
- Reportable and recordable incidents reports and/ or near misses, and investigation reports where applicable;
- Audit and inspection reports, test certificates, non-conformance register; and corrective action reports;
- EP, EP revisions and supporting documentation;
- Daily/ Scheduled Reports;
- Records of periodical tests and maintenance of HSE-related (and other) equipment and tools;
- Records of HSE meetings and training/ emergency drills;
- Modification and changes authorised by BHP and/ or contractor; and

- Risk assessments (e.g. chemicals to be discharged; management of changes).

BHP will report information on environmental performance to regulators to remain in compliance with key environmental legislation and regulations.

Changes to the EP and OPEP will be made in accordance with BHP management of change procedures. The Management of Change will be assessed and subject to formal review to determine if a revision of the accepted EP in force for the activity is required to be submitted to NOPSEMA pursuant to Regulation 17 of the OPGGS (Environment) Regulations.

7 Oil Pollution Emergency Plan Summary

The *Macedon Operations Oil Pollution Emergency Plan (OPEP) (MACHSE-E-0021)* is BHP's response strategy in the event of an oil spill during operations. The OPEP has been accepted by NOPSEMA as compliant with the OPGGS (Environment) Regulations 2009.

BHP has utilised a Net Environmental Benefit Analysis (NEBA) methodology to identify the appropriate response strategies for individual credible and worst-case hydrocarbon spill scenarios that could occur during Macedon Operations. A strategic NEBA was conducted to determine the benefits and constraints of the spill response strategies along with an assessment of the associated risks and impacts that may occur from their implementation.

In the event of an oil spill, an Operational NEBA will be undertaken to select the most appropriate spill response (or responses). The response strategy can evolve as conditions change.

The potential environmental risks and impacts of these strategies include:

- Physical presence of vessels and equipment causing disturbance to marine fauna including inteference/temporary displacement of marine fauna;
- Noise / air emissions causing a temporary increases in ambient noise and reduction in air quality, respectively;
- Increased routine liquid waste discharge and generation of solid waste from response vessels/personnel;
- Physical damage to shoreline habitats from clean-up operations;
- Physical injury and stress to wildlife if captured for treatment; and
- Pollution of the marine environment from unplanned chemical/hydrocarbon spills and waste generated during a spill response.

7.1 Primary Response Strategies

Primary response strategies which may be applied following a hydrocarbon spill:

- Source Control:
    - Relief Well – the primary response strategy for a loss of well control (LOWC). Successful duration to drill a relief well is estimated at 74 days or less and based on worst-case credible discharge;
    - Vessel Control – the primary response strategy for single point spills, transfer hose/ pipe failure, spills during diesel bunkering, tank overflows, hull leakage and spills in the event of a vessel collision. Activities will be dependent on the type of incident but may include:
        - Closing valves, isolating pipework and shutting down pumps;
        - Temporary patches or bungs/plugs to seal holes, until permanent measures are made;
        - Spill response equipment, including small booms, absorbent pads, spill absorbent litter, spill recovery containers, permissible cleaning agents and other materials; and
        - The transfer of product between tanks on the vessel or between vessels - in the event of a leaking tank or tank rupture from a vessel collision.
- Monitor and Evaluate – to maintain situational awareness and inform the response to any spill event:
    - Surveillance using boats and aircraft;
    - Oil spill trajectory modelling; and
    - Use of satellite imagery, surveillance and subsea plume tracking devices (oil spill tracker buoys and autonomous underwater vehicle) to track hydrocarbon spill trajectory.
- Natural Recovery – makes use of the natural degradation and weathering processes to breakdown and remove surface oil and stranded hydrocarbons.

- Forward Command Post (Level 2 spills) – Establishment of suitable local command post (location/ building) in Exmouth.

7.2 Secondary Response Strategies

Secondary response strategies may be implemented if needed and practicable:

- Operational and Scientific Monitoring – to support the response strategies for large spills and to understand any effects on sensitive receptors;
- Shoreline Clean-up – where natural recovery is unsuccessful and oil reaches shore, shoreline clean-up activities will be implemented requiring multiple vessels, equipment, clean-up crew and waste management resources;
- Oiled Wildlife Response – pre-oiling activities include: onshore exclusion barriers (e.g. fencing) to stop wildlife accessing shoreline areas affected by hydrocarbons; shepherding wildlife away from oil slicks or oiled shorelines with visual and auditory devices; and pre-emptive capture and removal of wildlife that may come into contact with hydrocarbons. Post-oiling activities include: collection and rehabilitation of oiled fauna at dedicated Oiled Wildlife Response Centres; and
- Waste Management – waste generated from shoreline clean-up response strategies through on-site waste handling and storage, segregation of waste, offsite transport and storage, waste treatment and disposal options, and waste monitoring and reporting.

7.3 BHP Oil Pollution Emergency Arrangements

BHP will implement its OPEP in the event of a significant oil spill. For Level 1 spills, responses can be resourced using shipboard or port located spill kits. All vessels over 400 gross tonnage are required to have a current SOPEP in place and appropriate spill kits, response capabilities and trained personnel. Likewise, designated ports and harbours are required to have as a minimum Level 1 response capability on site.

For Level 2 spills, BHP will maintain a broad set of spill response capabilities. BHP has contracts and Memorandum of Understanding (MOUs) with National and International third-party spill response providers to ensure response capabilities can be drawn upon in if required. For Level 2 LOWC spills, as part of BHPs emergency response arrangements, contingency arrangements exist for the drilling of relief wells to address subsea leaks/well blowout events. Whilst it remains highly unlikely that the Macedon wells would experience a LOWC event, under the WOMP the emergency response arrangements would trigger the planning and execution of a relief well (or wells) to control the situation.

BHP has the following emergency response arrangements in place:

- APPEA Memorandum of Understand (MOU): Mutual Assistance on rig/ service sharing in the event of a LOWC scenario.
- Standing Agreement and Service Contract with Australian Marine Oil Spill Centre (AMOSC) for the supply of experience personnel and equipment, including National dispersant stockpiles;
- Contract agreement with Oil Spill Resources Limited (OSRL) to supply incident management / specialist personnel;
- Mutual Aid MOU with other regional oil and gas operators to assist (including to source and mobilise offshore support vessels) in an oil spill situation;
- Other support services such as 24/7 oil spill trajectory modelling and satellite monitoring services as well as ‘on-call’ aerial, marine, logistics and waste management support; and
- MOU with AMSA, as managers of the National Plan for Maritime Environmental Emergencies, will support BHP with response equipment from National stockpiles. Equipment stockpiles are located around Australia in strategic locations such as Exmouth, Dampier, Darwin and Fremantle.
- Oiled Wildlife Reponse (OWR) capability in conjunction with AMOSC and Oil and Gas operators in the Exmouth/ Dampier region.

8 Stakeholder Consultation

8.1 Summary

BHP has been actively engaging with stakeholders of the North West Cape and Onslow region since the development of the Griffin Joint Venture in the early 1990's. This development triggered the start of a long-term relationship with the town of Onslow, local pastoralists, Ashburton Shire and the Thalanyji (the recognised Native Title holders). Offshore developments in the region have included the Stybarrow and Pyrenees fields, the latter immediately adjacent to the Macedon field, and have also generated long term engagement with stakeholders in Exmouth.

BHP has consulted broadly with relevant stakeholders regarding the EP revision, including sharing information with stakeholders, responding directly to enquiries and allowing stakeholders adequate time for consideration of this information (as per regulation 11A), and has taken account of potential impacts and risks identified by stakeholders.

BHP's approach to stakeholder consultation aims to demonstrate to relevant persons and the general public that the environmental impacts and risks of an activity are being appropriately managed. BHP is committed to ongoing engagement and consultation with stakeholders during all project stages.

The Exmouth Community Reference Group (CRG) and Onslow CRG were established to facilitate consultation in relation to BHP's multiple assets in the North West Cape region, including offshore and onshore Macedon operations. The CRG forum aims for proactive and regular interaction to promote open and inclusive communication with relevant stakeholders. Meetings are held regularly and participants are invited to raise any concerns or issues.

Meeting agendas are prepared and circulated in advance of meetings, minutes are recorded and feedback sought from stakeholders. The BHP Corporate Affairs toll-free 1800 number and email address are made available to stakeholders. For specific operations activities that occur between meetings, notifications are sent to relevant stakeholders and placed on local notice boards and at the Shire office in Onslow.

In addition to CRG consultation, targeted consultation has been undertaken for the EP revision, with identified stakeholders provided with information about the proposed activities and given adequate opportunity to evaluate and convey how it may impact on functions, interests and activities. It also provided opportunity for additional stakeholders identified during the consultation process to be contacted, with a commitment to assess any new concerns or claims as part of ongoing consultation.

8.1.1 Stakeholder Consultation Undertaken

BHP's consultation included CRG meetings and the wide distribution of an Activity Summary fact sheet and follow up phone and email correspondence. The information provided included the timing and duration of the activity, the mitigation measures for relevant impacts and risks, BHP's policies and experience, and contact details to facilitate providing feedback to BHP.

Stakeholders who raise objections and claims during consultation in the preparation of an EP are responded to directly, and any concerns raised (if not already considered by BHP) are addressed in the EP in the same manner as all risks identified by BHP.

8.1.2 Consultation Outcomes

No objections or significant concerns were raised by skeholders during consultation in the preparation of this EP. A summary of the consultation undertaken and associated outcomes is provided in Table 8-1.

Table 8-1: Summary of stakeholder consultation and BHP's assessment of feedback and response

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
CRG Meetings						
Onslow CRG	06/03/2014	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Onslow CRG	23/07/2014	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Onslow CRG	05/11/2014	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Onslow CRG	13/08/2015	Regular APU update. Presentation provided an update on Macedon operations including environmental offset program.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Onslow CRG	08/12/2015	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Onslow CRG	09/03/2016	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Exmouth CRG	20/07/2016	Regular APU update. Presentation provided an update on Macedon operations.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Onslow CRG	03/08/2016	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Onslow CRG	05/12/2016	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Exmouth CRG	08/03/2017	Regular APU update. Presentation provided an update on Macedon operations.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Onslow CRG	04/04/2017	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Exmouth CRG	26/07/2017	Regular APU update. Presentation provided an update on Macedon operations.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Onslow CRG	09/08/2017	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Exmouth CRG	08/11/2017	Regular APU update. Presentation provided an update on Macedon operations including environmental incidents.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Onslow CRG	27/11/2017	Regular APU update. Presentation provided an update on Macedon operations including environmental risks identified.	No issues raised.	Minutes and actions recorded. No actions related to this EP.	None	Not applicable
Community Organisations						

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Exmouth Info	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Exmouth Volunteer Marine Rescue	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Onslow Volunteer Marine Rescue	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Wirrpanda Foundation	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Ashburton Aboriginal Corporation	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Buurabalayji Thalanyji Aboriginal Corporation	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
North West Cape Exmouth Aboriginal Corporation	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Environmental NGO						
Cape Conservation Group Inc.	1/02/2018	Email, Activity Summary	Acknowledged receipt of information and requested to be kept informed of actvities, particularly around planned drilling or seismic activities. Following CRG, requested detail on the proposed extra drilling at Macedon.	Response explained that there is no proposed drilling for Macedon Operations in the 5-year plan.	None	Not applicable
Fisheries Operators						
Fat Marine / Coral Park Seafoods	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
1080 Contracting Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Anthony Fran James Butcher	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Arnold Piccoli	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Austral Fisheries	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Bardsley Fisheries Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Batavia Coral Farm Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Benjamin Charles Mitchell	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Bilyara Holdings Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Cameron Leon Dawe & Owen Frederick Dawe	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Cappoquin Fisheries Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Crystal Cree	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Daniel Allan Joyce	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Darren & Dianne McTaggart	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Darren Elton Gebbetis	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Dereck James Dufall	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
EA Morrison & SD Bransby	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Goldwood Investments Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Gregory Keith Paull & Elizabeth Ann Paull	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Haydn Lancelot Webb	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Hugh Colin Gilbert	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Ian Johnathan Lew & Pamela Margaret Canney	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Ian Stocker	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Jason Stanley & Emileee Macdonald	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Leigh James Mitchell	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Letiva Fisheries Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
M G Kailis Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Mareterram Fisheries Pty Limited	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Peter James Moore	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Phillip James Cooper	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Phillip James Moore	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Robert & Frances K Stone and Jason & Chantal Stone	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Robert & Judith Cooper	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Robert Lewis & Maureen Anne Alexander	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Ross Backshall	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Sabea Fishing Co Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Sagacity Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Samson Seafoods Pty Ltd	2/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Seafresh Holdings Pty Ltd	2/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Seafresh Holdings Pty Ltd & Fabron Holdings Pty Ltd	2/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Sharon May McAuliffe	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Simon Hawke	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Simpson Seafoods Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Spaniard Fishing Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Steven M Dawe	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Steven Marns	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Tasmanian Seafoods Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Teake Nominees Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Trevor & Barbara Darby	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Victor & Marie Filippou	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Viency Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Wayne Alan McKenzie-Brown	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Wesfisheries Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
W.A. Seafood Exporters Pty Ltd	2/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Zamia Bay Pty Ltd	6/02/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Ashburton Fisheries	3/04/2018	Letter, Activity Summary	No response at time of EP submission.	No response required	None	Not applicable
Government – Commonwealth						
Australian Maritime Safety Authority	1/02/2018	Email, Activity Summary, Telephone Call. Update requests were issued mid-April.	Historical AIS plots for the Macedon project provided, based off of data collected between January and March 2018.	Not applicable	Not applicable	Not applicable
Australian Fisheries Management Authority	25/01/2018	Email, Activity Summary, Telephone Call.	North West Slope Fishery is active in the area. Contact information for relevant fishing operators provided.	AMFA advice noted in EP. Relevant fishing operators contacted on 02/02/2018 with information about EP activities.	None	Not applicable
Australian Hydrographic Office	1/02/2018	Email, Activity Summary, Telephone Call. Update requests were issued mid-April.	No response at time of EP submission.	Not applicable	Not applicable	Not applicable
Department of Defence	1/02/2018	Email, Activity Summary	Acknowledged receipt of email and provision of information to relevant local DoD contact.	Relevant local DoD stakeholder contacted on 30/04/2018 with information about EP activities.	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Department of Environment and Energy	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Department of Environment and Energy - Australian Marine Parks	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Government – Local						
Shire of Ashburton	1/02/2018	Email, Activity Summary	Acknowledged receipt of email.	No response required.	None	Not applicable
Shire of Exmouth	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Shire of Exmouth – Airport Manager	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Government – State						
Exmouth District High School	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Gascoyne Development Commission	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Main Roads WA	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Onslow Hospital	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Onslow Police Station	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Onslow Primary School	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Pilbara Development Commission	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Pilbara Ports Authority	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
WA Department of Biodiversity, Conservation and Attractions - Parks and Wildlife Services	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
WA Department of Jobs, Tourism, Science and Innovation	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
WA Department of Mines, Industry Regulation and Safety (DMIRS)	1/02/2018	Email, Activity Summary	Acknowledge receipt of information. Request for further information regarding Commonwealth EP revision.	BHP has consulted closely with DMIRS during the preparation of the Macedon Operations State EP, and will has continue to consult with DMIRS during the development of the Commonwealth EP to ensure information needs are met.	None	Not applicable
WA Department of Primary Industries and Regional Development (DPIRD)	1/02/2018	Email, Activity Summary	DPIRD has nothing further to add to advice provided as part of consultation on the Griffin Cessation EP. That advice was: With respect to cessation activities, DPIRD generally relies on the Regulator to ensure that risks of impact on aquatic resources due to reduced water quality associated with the various cessation activities are appropriately mitigated and managed by BHP and so does not tend to comment on the cessation activities themselves.	Cessation activities are not within the scope of the EP. DPIRD advice is noted for future reference. No actions related to this EP.	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
WA Department of Transport (DoT)	1/02/2018	Email, Activity Summary	Request opportunity to review any changes to the OPEP prior to submission to NOPSEMA.	DoT is currently reviewing Pyrenees OPEP and Macedon State OSCP. Changes and comments will be carried over to the Macedon Operations Commonwealth OPEP if relevant.	None	DoT is currently reviewing Pyrenees OPEP and Macedon State OSCP. Changes and comments will be carried over to the Macedon Operations Commonwealth OPEP if relevant.
WA Department of Water and Environmental Regulation (DWER) (Exmouth)	1/02/2018	Email, Activity Summary	Acknowledged receipt of email.	No response required.	None	Not applicable
WA Police (Exmouth)	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Industry Assocations						
Australian Marine Oil Spill Centre (AMOSC)	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Australian Petroleum Producers and Explorers Association (APPEA)	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Exmouth Chamber of Commerce	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Onslow Chamber of Commerce & Industry	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Industry Associations – Fisheries						
Northern Fishing Companies Association	1/02/2018	Email, Activity Summary, Telephone	No response at time of EP submission.	No response required.	None	Not applicable
Recfishwest	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Western Australian Fishing Industry Council	1/02/2018	Email, Activity Summary, Telephone Call	No response at time of EP submission.	No response required.	None	Not applicable
Western Australian Northern Trawl Owners Association / WA Seafoods	1/02/2018	Email, Activity Summary, Telephone Call	No response at time of EP submission.	No response required.	None	Not applicable
Local Businesses						
Base Marine	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Bgahwan Marine	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Exmouth Bus Charter	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Exmouth Freight and Logistics	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Exmouth Game Fishing Club	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Exmouth Station	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Exmouth Tackle and Camping Supplies	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Exmouth Wholesalers	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Gunn Marine Services	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Mackerel Island Charters	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Ningaloo Lodge	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
North Coast Charters	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Offshore Unlimited	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Onslow Beach Resort	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Onslow Salt	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Shelf Subsea	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Trick Electricks Pty Ltd	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
V Swans	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Local Organisation						

Stakeholder	Date Consultation Commenced	Consultation Method	Stakeholder Response / Requests / Claim	BHP Response	Outstanding Issues / Claims	BHP Action / Commitment
Exmouth Visitors Centre	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Onslow Visitors Centre / Onslow Times	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable
Regional Operator						
Quadrant Energy	1/02/2018	Email, Activity Summary	No response at time of EP submission.	No response required.	None	Not applicable

8.2 Ongoing Consultation

Stakeholder consultation will be ongoing and BHP will work with stakeholders to address any future concerns if they arise throughout the validity of this EP. Should any new stakeholders be identified, they will be added to the stakeholder database and included in all future correspondence as required.

BHPs commitments to ongoing consultation include:

- Responding in a timely manner to all stakeholder and community contact regarding Macedon activities;
- Stakeholders who raise objections and claims following EP submission will be responded to directly, and should any concerns raised have not already been addressed in the EP, these will be assessed in the same manner as all risks identified by BHP and an EP revision submitted to NOPSEMA if required;
- Prior to mobilisation of vessels for inspection/intervention activities, BHP will:
  - Issue notification of the location and duration of activities to the Australian Hydrographic Office (AHO) who will issue a 'Notice to Mariners' for activities of >7 days duration; and
  - Ensure vessel(s) notify AMSA's Joint Rescue Coordination Centre for the promulgation of navigation warnings 24-48 hours before operations commence;
- Continued regular Exmouth and Onslow CRG meetings.

9 Titleholder Nominated Liaison Person

For further information about this activity please contact the BHP Petroleum Corporate Affairs Team.

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