



**ExxonMobil™**

**Esso Australia Resources Pty Ltd (“Esso”)  
BASS STRAIT STATE WATERS ENVIRONMENT PLAN  
SUMMARY**

**Document Number: AUGO-PO-EMP-060**



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## 1. Introduction

This Environment Plan has been prepared in accordance with the requirements of the Victorian Offshore Petroleum and Greenhouse Gas Storage (OPGGS) Act 2010 and the Victorian Offshore Petroleum and Greenhouse Gas Storage Regulations 2011 (Vic OPGGSR 2011). This document summarises the Bass Strait State Waters Environment Plan (BSSWEP, AUGO-PO-EMP-059), which revises the previous BSSWEP accepted by DEDJTR (then the Department of Primary Industries) in 2011.

The BSSWEP covers all activities relating to the operation of the following seven petroleum pipelines and one secondary line within State Waters (3nm from shore):

- MLA-Shore 500 (VIC/PL2)
- HLA-Shore 600 (VIC/PL5)
- BTA-Shore 450 (VIC/PL1)
- BTA-Shore 150 (VIC/PL4)
- SNA-Shore 600 (VIC/PL13)
- BMA-Shore 350 (VIC/PL32)
- PCA-Shore 300 (VIC/PL21)
- Shore-PCA 100 (secondary line as part of the Perch facility in Production Licence VIC/SL5).

Ongoing operational, maintenance, and construction (brownfields) activities will be conducted on these pipelines and the secondary line over the next five years.

Esso Australia Resources Pty Ltd ("Esso") is the operator and a titleholder of the abovementioned licenced petroleum pipelines. ExxonMobil Australia is the holding company for the Esso and Mobil companies in Australia.

### 1.1. Location of the Activity

The pipelines and secondary lines in State waters run from the shore to approximately 40m water depth, and are located between 30km and 100km west of Lakes Entrance (Figure 1).

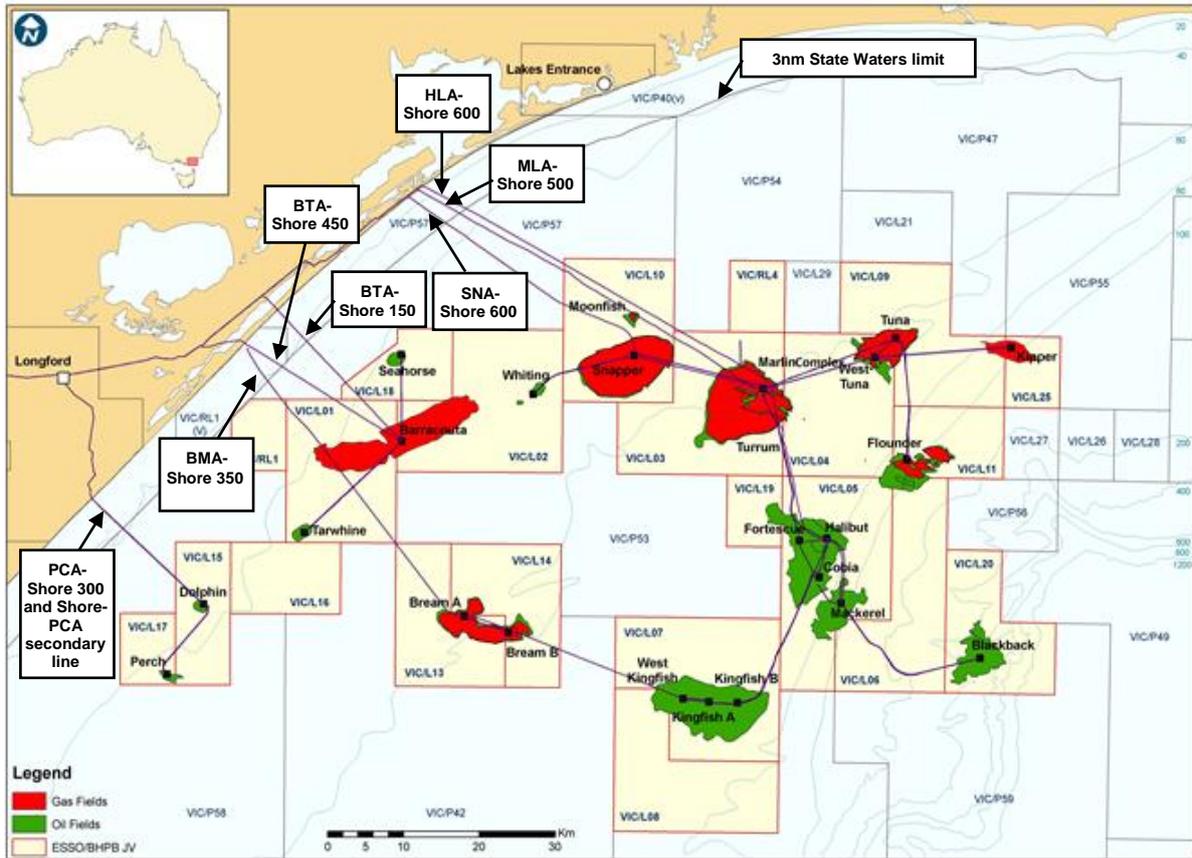


Figure 1 Esso production facilities in Bass Strait



## 2. Description of the Activity

The BTA to Shore (BTA-Shore150) pipeline is a 150 mm nominal diameter, 24.5 km long oil transmission line running from the BTA platform to the shore crossing at Paradise Beach.

The BTA to Shore (BTA-Shore450) pipeline is a 450 mm nominal diameter, 24.5 km long wet gas transmission line running from the BTA platform to the shore crossing at Paradise Beach.

The SNA to Shore (SNA-Shore600) pipeline is a 600 mm nominal diameter, 31 km long gas transmission line running from the SNA platform to the shore.

The MLA to Shore (MLA-Shore500) pipeline is a 500 mm nominal diameter, 52.6 km long gas transmission line running from the MLA platform to the shore crossing at Loch Sport.

The Perch to Shore (PCA-Shore300) pipeline is a 300 mm nominal diameter, 32 km long oil transmission line running from the Perch platform to the shore crossing at Seaspray.

The Perch-Dolphin Gas Lift (Shore-PCA100) secondary line is a 100 mm nominal diameter, 32 km long gas lift line running from the shore crossing at Seaspray to the Perch platform.

The BMA to Shore (BMA-Shore350) pipeline is a 350 mm nominal diameter gas transmission pipeline running from the BMA platform to the shore.

The HLA to Shore (HLA-Shore600) pipeline is a 600 mm nominal diameter oil transmission pipeline running from the HLA platform to the shore.

Support operations consist of vessel, helicopter and remotely operated vehicle (ROV) activities. Other vessels are utilised for underwater pipeline inspection, drilling, and specialised services. A fleet of helicopters transport personnel and freight to and from offshore platforms.

Inspection, maintenance and repair activities are undertaken on subsea structures.

### 2.1. Activities that have the Potential to Impact the Environment

Activities that have the potential to impact the environment are divided into two main groups and include:

#### Gippsland Wide Co-ordinated Activities

##### *Support Operations*

- Waste management
- Vessel operations and movement.

##### *Inspection, Maintenance and Repair*

- Surface and subsea structure maintenance, inspection and intervention
- Remotely Operated Vehicle (ROV) operations.

#### Facility Specific Activities

##### *Physical Presence*

- Physical presence of pipelines.

The hazards associated with these activities were all assessed for their potential impact on the environment and are outlined in Section 4.



### 3. Description of the Receiving Environment

This section describes the environment in the operating area (i.e., the immediate zone around the pipelines) and the surrounding area (i.e., the area identified, through Oil Spill Trajectory Modelling, as potentially being impacted by a loss of containment from pipeline event).

#### 3.1. Physical Environment

The pipelines and secondary line are located within the Gippsland Basin which is off mainland south-eastern Victoria and part of Bass Strait. Bass Strait is the region of the continental shelf that separates mainland Australia from Tasmania. Bass Strait, including the operating area and surrounds, is located in a relatively shallow area of the continental shelf and has high winds and strong tidal currents. The area includes marine parks and reserves, as well as listed endangered or vulnerable species.

Wind speeds are in the range of 10 to 30 km per hour, with maximum gusts reaching 100 km per hour. The wind direction is predominately westerly during winter, westerly and easterly during spring and autumn (when wind speeds are highest) and easterly during summer. Average summer air temperatures range from 13 to 21°C and average winter temperatures range from 9 to 14°C.

Temperatures in the subsurface waters of the operating area range from about 13°C in August/September to 16°C in February/March. Surface temperatures can exceed 20°C at times in late summer due to the warmer waters of the East Australia Current entering Bass Strait.

Currents around the pipelines are tide and wind driven. Tidal movements predominantly have a northeast–southwest orientation. Tidal flows come from the east and west during a rising (flood) tide, and flow out to the east and west during a falling (ebb) tide.

The area around the pipelines is a high energy environment exposed to frequent storms and significant wave heights. The sea floor in the Gippsland Basin is concave shaped, with a shallower rim on the eastern and western entrances to the Strait and a deeper centre.

#### 3.2. Biological Environment

The operating area and surrounds support a range of benthic (seabed) invertebrate fauna as well as a variety of vertebrate species such as fish, birds, seals and whales, including listed, endangered, and vulnerable species under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). The operating area and surrounds also contain a number of marine fauna that have high commercial value.

##### 3.2.1. Species Listed Under the EPBC Act

###### 3.2.1.1. Fish and Shellfish

It is estimated that there are over 500 species of fish found in the operating area and surrounds, including a number of species of importance to commercial and recreational fisheries. Two fish species potentially occurring within the operating area were listed as ‘threatened’ under the EPBC Act; Eastern Dwarf Galaxias (*Galaxiella pusilla*), and the Australian Grayling (*Prototroctes maraena*).

Pipefishes, seahorses and seadragons are generally associated with vegetation in sheltered to moderately exposed reef areas at a range of depths from 0 to 50 m, depending on the species, but usually at depths of between 5 and 25 m. These species normally inhabit shallow reefs and kelp beds within the operating area and around adjacent shorelines in the Gippsland Basin.

###### 3.2.1.2. Sharks and Rays

Two shark species potentially occurring within operating area were listed as ‘threatened’ under the EPBC Act; the Great White Shark (*Carcharodon carchari*), and the Whale Shark (*Rhincodon typus*).

###### 3.2.1.3. Reptiles

Three threatened species of turtle, the Loggerhead Turtle (*Caretta caretta*) (endangered and migratory), the Leatherback Turtle (*Dermochelys coriacea*) (endangered and migratory) and the



Green Turtle (*Chelonia mydas*) (vulnerable and migratory) are listed as potentially having habitat in the operating area.

#### 3.2.1.4. Birds

The Victorian coast and neighbouring islands provide feeding and nesting habitats for many coastal and migratory bird species. Seabirds spend much of their lives at sea in search of prey and return for a short time to breed and raise chicks.

Colonies of seabirds occur to the west of the operating areas in Corner Inlet and on the islands around Wilsons Promontory, to the east at the Skerries, Tullaberga Island and Gabo Island and to the south on Curtis Island and the Hogan Island Group. Eastern Bass Strait is also a foraging area for at least 15 species of albatross, three species of petrel and one species of skua.

Thirty-six bird species may occur, or are likely to occur, within the pipeline operating area. Many birds periodically pass through the area on their way to or from the Bass Strait islands and mainlands of Victoria, NSW and Tasmania.

#### 3.2.1.5. Seals

Two seal species, the Australian Fur Seal (*Arctocephalus pusillus doriferus*) and the New Zealand Fur Seal (*Arctocephalus forsteri*) are known to occur in the operating area. Both species are listed under the EPBC Act, however they do not carry a threatened status under Commonwealth legislation or Victorian State legislation. Seals are frequently seen throughout Esso's Bass Strait oil and gas platforms and are often found resting and swimming in the vicinity of the platform structures.

#### 3.2.1.6. Cetaceans

Several cetacean species (whales, dolphins and porpoises) listed under the EPBC Act, may occur, or are likely to occur, within the operating area and surrounds. This includes Blue Whales (*Balaenoptera musculus*), Southern Right Whales (*Eubalaena australis*), Humpback Whales (*Megaptera novaeangliae*), Bottle-nosed Dolphins (*Tursiops truncatus*) and Dusky Dolphins (*Lagenorhynchus obscurus*), all of which may occur, or are likely to occur, within the operating area. Although whales are known to migrate through the region during spring and autumn/early winter, the operating area is not a recognised feeding, breeding or resting area for cetaceans.

### 3.2.2. Marine Environments

Marine environments that occur within the operating area and surrounding area include:

- Open marine environment
- Seabed
- Subtidal rocky reefs
- Estuaries
- Intertidal rocky shores
- Intertidal, emergent, sub tidal aquatic vegetation
- Sheltered intertidal flats and bare sediment (mudflats)
- Marshes
- Mangroves
- Sandy beaches and dunes
- Cliffs/exposed rocky headlands
- International, national, state, regional or coastal sites of significance or sensitivity.



### 3.3. Sites of Significance or Sensitivity in the Operating Areas and Surrounds

There are sensitive habitats in the surrounding area, comprising of:

- International sites of significance including the Gippsland Lakes Ramsar Site and the Croajingolong National Park and Biosphere Reserve (including Nadgee Nature Reserve).
- National sites of significance including the Australian Whale Sanctuary; East Gippsland Commonwealth Marine Reserve; Flinders Commonwealth Marine Reserve; Ben Boyd National Park; Cape Howe Marine National Park; Ninety Mile Beach Marine National Park; Point Hicks Marine National Park; The Lakes National Park and Gippsland Lakes Coastal Park.
- State (Victorian) sites of significance including the Gabo Island Harbour Special Management Area and Gabo Island Light Station Reserve; Mallacoota Inlet Special Management Area; The Skerries Special Management Area; Beware Reef Marine Sanctuary; and Cape Conran Coastal Park.
- State (Tasmanian) sites of significance including protected reserves on or near Flinders Island including Wingaroo Nature Reserve, Big Green Island Nature Reserve, Low Islets Nature Reserve and Moriarty Rocks Nature Reserve.

### 3.4. Socio-Economic Environment

#### 3.4.1. Cultural Heritage

The Gunai-Kurnai people hold native title over much of onshore Gippsland, and 200 m of offshore sea territory between Lakes Entrance and Marlo.

The Gabo Island lighthouse is listed as a Commonwealth Heritage place.

#### 3.4.2. Shipwrecks

A search of the National Shipwrecks Database identified a number of shipwrecks within the surrounding area (approximately 150 along Victorian and southern NSW coastlines).

#### 3.4.3. Commercial Fishing

Various commercial fisheries are known to occur within the operating area and surrounds. The main commercial Commonwealth fisheries within the surrounding area are the Southern and Eastern Scalefish and Shark Fishery (SESSF); the Bass Strait Central Zone Scallop Fishery (BSCZSF); and the Small Pelagic Fishery. Other Commonwealth fisheries operating within the surrounding area include the Eastern Tuna and Billfish Fishery.

State administered fisheries operating within the broader region include Victorian and Tasmanian Scallop Fisheries; Victorian, Tasmanian and NSW Abalone Fisheries; Victorian, Tasmanian and NSW Rock Lobster Fisheries; Victorian Commercial Bay and Inlet Fisheries; NSW Ocean Trawl Fishery; NSW Ocean Trap & Line Fishery; NSW Estuary General Fishery; and NSW Ocean Hauling Fishery. Other State fisheries include the Tasmanian Scalefish Fishery, Tasmanian Commercial Dive Fishery, and Tasmanian and Victorian Giant Crab Fisheries.

#### 3.4.4. Recreational Fishing, Boating and Tourism

The Gippsland region is estimated to attract more than 7 million visitors annually. These visitors are estimated to spend an estimated \$1 billion in the region per annum, with flow-on expenditure estimated at over \$699 million per annum. There are more than 1,000 specialised tourism businesses in Gippsland and more than 12,000 people estimated to be employed as a direct result of tourism in Gippsland.

Tourism and recreational activities offered by the coastal areas of central and eastern Gippsland include; recreational fishing on the Gippsland Lakes, along Ninety Mile Beach, at Cape Conran Coastal Park and Croajingolong National Park and off the coast of Mallacoota; swimming and surfing



along the Gippsland coast; scuba diving and snorkelling in Gippsland's Marine and Coastal Parks; and walking and hiking in Gippsland's National and Coastal Parks.

Similar to the Gippsland region, the coastal areas of southern NSW also offer fishing, canoeing, boating, diving and surfing activities in their bays and lakes, beaches and rivers.

### 3.4.5. Commercial Shipping

Bass Strait is one of Australia's busiest shipping areas with more than 3,000 vessels passing through Bass Strait each year. Bass Strait is a transit route for shipping traffic connecting the eastern and western ports of Australia. A shipping exclusion area (Area to Be Avoided) surrounds all pipelines in State Waters excluding the oil pipeline and gas secondary line adjoining the Perch and Dolphin platforms to the shoreline.

### 3.4.6. Oil and Gas Industry

More than 4 billion barrels of liquids and 8 trillion cubic feet of gas have been produced in Bass Strait to date, from offshore production facilities (platforms, monotowers and subsea completions) and via a pipeline network of over 600 km; and various fields under exploration or development. There are 26 petroleum production licences held by various titleholders in Bass Strait.

## 4. Environmental Risk and Impact Assessment and Management

Esso undertook a series of Environmental Risk Assessment (ERA) workshops to identify the potential impacts and risks from the pipelines in State Waters, and to assess the adequacy of measures to reduce the impacts and risks to As Low as Reasonably Practicable (ALARP) and acceptable levels. Workshop participants were chosen based on their familiarity with, knowledge of, and expertise in Esso's operations.

The approach and methodology used during the ERA process was consistent with AS/NZS ISO 31000 and AS/NZS ISO 14001.

Environmental impacts and risks for planned activities that have the potential to impact the environment (see Section 2.1) and for unplanned spill scenarios (see Section 4.2) were evaluated first by determining the consequence severity, and estimating the probability or likelihood that the consequences could occur.

- *Consequence severity:* There are four consequence categories (I through IV, with I being the highest consequence level). The consequence categories consider environmental effects (in terms of duration, size/scale, intensity) and sensitivity (in terms of irreplaceability, vulnerability and influence).
- *Probability:* There are five probability categories (A through E, with A being the most likely level). The probability categories consider the probability for each failure, event or condition necessary to produce the consequences, given the implementation of controls that prevent and mitigate the risk.

The combination of consequence severity and probability of occurrence determines the position on the Esso Risk Matrix. The Esso Risk Matrix is divided into four categories, with Category 1 being the highest risk category and Category 4, the lowest. A risk could have a low consequence severity and high probability of occurrence, and result in the same risk ranking as a risk with a high consequence severity and low probability of occurrence. Environmental risks described in this EP were assessed as Category 3 and 4 risks.

Esso then determined whether risks were reduced to ALARP by combining an understanding of the nature and cause of the risk to be avoided and the measures involved in avoiding or mitigating the risk (in terms of increased impact on personal safety and/or the environment, increased time, effort or financial cost). A risk is considered to be reduced to ALARP if there are no additional reasonably practicable measures available to further reduce the risk; or there are no reasonably practicable alternatives to the activity; or the 'cost' of implementing further measures is grossly disproportionate to the reduction in risk.

Esso then determined whether risks were reduced to acceptable levels by inspecting the final category of environmental risk and comparing the management of the risk with internal and external standards and stakeholder feedback. The risk is considered to be reduced to acceptable levels if the



level of residual environmental risk associated with the activity was either Category 2, 3 or 4; and the activity is commonplace in current offshore practice (i.e. benchmarked), is compliant with current industry/ExxonMobil Australia policy and standards, and Australian legislation; and any valid claims or objections to the risk from relevant persons or stakeholders, are considered.

#### 4.1. Operations Integrity Management System (OIMS)

The operation of pipelines and secondary line is managed in accordance with ExxonMobil's Operations Integrity Management System (OIMS).

The OIMS Framework establishes expectations for addressing risks inherent in the business and ensuring hazards are safely controlled. All OIMS management systems contribute to the effective management of the identified environmental risks and impacts in the Bass Strait State Waters EP. OIMS Systems that have been referenced as controls in Table 1 are:

- *OIMS System 6-2 (Facility Integrity Management)* ensures that the operations integrity of all Esso-owned or controlled critical equipment is maintained over the complete life cycle of the equipment without significant failures that would (1) result in uncontrolled emissions, fires, explosions, or incidents that might pose serious danger to people, the environment, or assets; or (2) significantly impact equipment availability and reliability.
- *OIMS System 6-4 (Work Management)* ensures that the work activities at Esso-operated or controlled sites are undertaken in a structured and controlled manner to reduce the risk of incidents.
- *OIMS System 6-5 (Environmental Management)* provides a framework that meets Esso environmental business planning expectations, establishes the requirements for environmental management, and enables Esso to conduct its business in a manner that is compatible with the balanced environmental and economic needs of the communities in which it operates.
- *OIMS System 8-1 (Contractor Selection and Management)* provides a systematic approach for the management of interfaces with third-party suppliers of services (i.e., contractors) to achieve continuous improvement in contractor operations integrity performance. This System covers requirements for interfaces for monitoring, evaluation, and feedback to the contractor.
- *OIMS System 10-2 (Emergency Preparedness and Response)* ensures that Esso establishes effective emergency preparedness and response, and provides well maintained equipment and trained personnel to manage incidents. Emergency situations include those incidents that impact safety, security, health, and the environment.

#### 4.2. Unplanned Events

Consideration was also given to unplanned events which, although unlikely to occur, could lead to impacts to the environment. Based upon the proposed activities, an assessment of all hydrocarbon spill scenarios which could occur was identified as part of the Environmental Risk Assessment (ERA). The ERA identified the following worst-case spill scenarios:

- Vessel collision with another vessel
- Loss of containment from pipelines.

The *loss of containment from pipelines event* was carried forward to Oil Spill Trajectory Modelling and determined the Zone of Potential Impact to the environment in the unlikely occurrence of an unplanned event.

The Zone of Potential Impact encompasses the operating area (i.e., the immediate zone around the pipeline/s) and the surrounding area (i.e., the area identified, through Oil Spill Trajectory Modelling, as potentially being impacted by a loss of containment from pipeline event, described in Section 3).



### 4.3. Hazards, Potential Impacts and Control Measures

A summary of the environmental hazards, potential impacts and controls is provided in Table 1.

**Table 1 Summary of Hazards, Potential Impacts and Control Measures**

Hazard	Potential Impact	Control Measures	Risk Category
<b>Gippsland Wide Co-ordinated Activities</b>			
Sewage discharge from vessels	Sewage waste will be readily dispersed and degraded with little or no impact expected.	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors treat sewage through a certified sewage treatment system prior to discharge.	4 (Lowest)
Disposal of food wastes from vessels	Food waste will be readily degraded and dispersed, with little or no impact expected.	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors macerate putrescible waste (< 25mm size) prior to discharge, or the waste will be taken ashore for disposal.	4
Disposal of solid/general waste from vessels	Localised and temporary change in water quality, impacts on visual amenity (littering), and death or injury of marine fauna (through ingestion, entanglement, suffocation).	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors store general refuse, solid and hazardous waste appropriately on the vessels and transfer the waste onshore for disposal.	4
Discharge of vessel deck drainage	Localised and temporary reduction in water quality leading to potential impact on marine organisms.	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors have scupper plugs fitted for use in overboard drains.	4
Discharge of vessel oily water (bilge)	Localised and temporary reduction in water quality leading to potential impact on marine organisms.	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors treat bilge to an oil-in-water concentration of 15ppm prior to discharge.	4
Ballast water discharge - Unplanned introduction/ transmission of invasive species	Introduced exotic species out-compete endemic species for local resources.	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors comply with the requirements of AQIS's Australian Ballast Water Management 2008 which includes exchange at sea outside of Australian territorial waters for 'high risk' ballast water from port or coastal waters.	4
Vessel biofouling - Unplanned introduction/ transmission of invasive species	Introduced exotic species out-compete endemic species for local resources.	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors undertake marine pest inspection and hull anti-fouling undertaken for all vessels within 7 days prior to entering Australian Waters, in accordance with the National Biofouling Management Guidance for the Petroleum Production and Exploration Industry (DAFF 2009).	4
Vessel movements - Unplanned collision with marine fauna	Death or injury of marine fauna.	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors; maintain a 300 m standoff distance from cetaceans (where possible and safe to do so) should listed marine species (such as cetaceans or seals) be sighted.	4
Fuel combustion equipment on vessels	Decline in air quality and contribution to greenhouse gases.	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors have certified fuel-combustion equipment and operate in accordance with a current Air Pollution Prevention Certificate, where applicable.	3
Subsea structure maintenance, inspection and intervention	Localised and temporary change in water quality leading to potential impact on marine organisms, disturbance/ removal of marine growth, smothering or disturbance of benthic flora and fauna.	OIMS System 6-1 (Operations and Maintenance Procedures) ensures correctly categorised and approved procedures are developed for subsea interventions.	4



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Hazard	Potential Impact	Control Measures	Risk Category
<b>Gippsland Wide Co-ordinated Activities, continued</b>			
ROV operations	Localised and temporary change in water quality leading to potential impact on marine organisms	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors use hydraulic fluid which is a biodegradable fluid.	4
Use and storage of radioactive sources	Localised change in radiation leading to potential impact on marine organisms.	OIMS System 6-4 (Work Management) ensures guidelines are provided for radiography, that includes storage and handling requirements to prevent loss to the marine environment.	4
<b>Facility Specific Activities</b>			
Physical presence - Noise	Behavioural change, impairment to movement patterns of seabirds, hearing impairment to marine fauna, increased stress in marine fauna	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors maintain vessel thrusters.	4
Physical presence of pipelines	Interference with commercial/ recreational fishing or shipping activities.	There are no relevant controls for this risk.	4
<b>Unplanned Events</b>			
Vessel collision (with another vessel) - Unplanned release of chemical or diesel	Localised change in water quality leading to potential impact on seabirds, marine mammals, reptiles, fish and other marine organisms.	OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors have trained and qualified Vessel Masters.  OIMS System 8-1 (Evaluating, Selecting and Monitoring Third Parties) ensures vessel contractors have a SMPEP in place.  OIMS System 10-2 (Emergency Preparedness and Response) ensures effective emergency preparedness and response plans are in place, which provide for well-maintained equipment and trained personnel.  OIMS System 6-2 (Facility Integrity Management) ensures oil spill equipment is appropriately maintained.	4
Loss of containment from pipeline or topsides	Oil Spill Trajectory Modelling shows the following potential impacts may occur in the most severe loss of containment from pipeline event: <ul style="list-style-type: none"> <li>• Surface oiling to Victorian and southern NSW shorelines. Dissolved/entrained oil in nearshore waters.</li> <li>• Change in water quality leading to potential impact on seabirds, shorebirds, marine mammals, reptiles, fish and other marine organisms.</li> <li>• Taint (off-flavour) of seafood harvested from areas severely affected by a spill.</li> <li>• Coastal waters of declared native title areas or shipwreck sites exposed to oil.</li> <li>• Exclusion of fishing, shipping, boating, tourism or oil and gas activity from spill- affected areas.</li> </ul>	OIMS System 6-2 (Facility Integrity Management) ensures critical inspection and maintenance programs are in place.  Corrosion control and monitoring programs in place.  OIMS System 6-2 (Facility Integrity Management) ensures shutdown and blowdown systems (pipeline high-low pressure) are appropriately maintained.  OIMS System 10-2 (Emergency Preparedness and Response) ensures effective emergency preparedness and response plans are in place, which provide for well-maintained equipment and trained personnel.  OIMS System 6-2 (Facility Integrity Management) ensures oil spill equipment is appropriately maintained.	3



#### 4.4. Response Arrangements

In the highly unlikely event of an unplanned loss of containment, the Oil Pollution Emergency Plan (OPEP) outlines the response arrangements that can be undertaken, including:

- Source control
- Monitoring and natural degradation
- Dispersants
- Protection and deflection
- Containment and recovery
- Shoreline clean-up
- Setting exclusion zones.

Response arrangements will be utilised according to the size and type of spill, environmental and cultural sensitivities, prevailing weather conditions, access constraints and available resources. A Net Environmental Benefit Analysis (NEBA) is applied to consider the advantages and disadvantages of various oil spill response options, which is completed in consultation with relevant government departments and agencies.

The OPEP also outlines the resources (personnel and equipment) which may be utilised depending on the size and nature of the spill, the lead organisations and responders, and the notification requirements. The OPEP interfaces with the spill contingency plans developed by Australian Maritime Safety Authority (AMSA) (National Plan), Victorian Government (VicPlan), NSW Government (NSW Plan), Tasmanian Government (Tas Plan), Gippsland Ports (Gippsland Region Marine Pollution Contingency Plan), and the Australian Marine Oil Spill Centre (AMOSC) (AMOSPlan).

Esso maintains oil spill response equipment stockpiles at its facilities at Long Island Point (near Hastings) and at Barry Beach Marine Terminal (South Gippsland). In addition, Esso can call upon equipment and trained personnel from AMOSC (Geelong), Victorian State Plan resources, Australian National Plan for Maritime Environmental Emergencies (National Plan) resources (e.g., from AMSA), or internationally through its membership to Oil Spill Response Limited (OSRL).

Esso has developed checklists for managing an unplanned loss of containment, which include responding to the first sighting of oil and gathering spill information, implementing source control measures, classifying response levels (Level 1, Level 2 or Level 3), implementing response action plans/arrangements and reporting to statutory agencies. Esso manages incidents using the Incident Command System, which is a system designed to provide a consistent organisation to respond to emergency situations. Positions within the ICS are fixed and have specific functions, ensuring that all responders know what to do and where they report in the organisation structure. A response to a spill may also utilise members of the Esso Emergency Support Group (ESG) who provide strategic support, and if the response level is elevated, ExxonMobil's Regional Response Teams who have experience in responding to emergencies internationally.

Waste generated through oil spill response operations will be managed using Esso's Waste Management Manual (WMM). Esso has a contract in place for the provision of waste management services (including treatment, recycling and disposal) and is able to quickly mobilise a team of experts anywhere in Australia. If oil spill response operations result in the generation of wastes outside of Victoria, Esso will manage and dispose of these wastes using a spill-specific Waste Management Plan.

Wildlife response will be managed through applicable wildlife response arrangements in each state. In Victoria, wildlife response will be initiated under Victoria's emergency management arrangements as per the *Emergency Management Act 1986* (Vic). The Wildlife Response Plan for Marine Pollution Emergencies (which is a sub-plan to VicPlan) will also be implemented. In Tasmania, the WildPlan will be implemented and in NSW, the Agriculture and Animal Services Functional Area Supporting Plan and associated policies and procedures will be implemented.

The OPEP includes an Operational and Scientific Monitoring Program (OSMP), which is initiated in the event of a spill. Esso has third party contracts in place for the provision of environmental monitoring services.



Training and exercises are used to maintain Esso's ability to implement an emergency response. Oil spill response training is made available to specific Esso personnel required to undertake a role in oil spill response. Elements of the OPEP, and associated oil spill response resources (equipment or personnel), are exercised at least annually. Additional exercises are scheduled should there be a significant change to response arrangements.

#### 4.4.1. Spill Response Activities Potential Impacts and Risks

Spill response activities have the potential to incur impacts and risks to the environment, and these are managed carefully with controls in place in the unlikely event a spill does occur. The potential environmental impacts and risks associated with proposed response strategies include:

- Seabed disturbance from mechanical agitation
- Exclusion of ocean and shoreline users due to implementation of spill exclusion zones
- Exposure of in-water fauna to oil and/or dispersant from applying dispersant, or mechanical agitation techniques
- Shoreline impacts from spill response equipment and personnel mobilisation
- Inappropriate waste disposal
- Impacts to wildlife from inappropriate handling
- Noise from vessels or aircraft
- Vessel collision with marine fauna
- Additional spills (e.g. from spill response vessel collision, ROV collision or release, or an unplanned release while manually cleaning up oil).

Esso has detailed performance outcomes and standards on controls that manage the above potential impacts and risks to ensure spill response activities are managed to ALARP and acceptable levels during an actual spill response.

#### 4.5. Implementation Strategy

The implementation strategy detailed in the Bass Strait State Waters EP identifies OIMS systems, practices and procedures that are used to ensure environmental impacts and risks of the activity are reduced to ALARP and acceptable levels, and that environmental performance outcomes and standards outlined in the EP are met. The implementation strategy includes the following elements:

- Clear definition of personnel roles and responsibilities
- Training, communications and awareness of environmental commitments
- Performance measurement review and reporting, including regulatory reporting, incident reporting and environmental performance review
- Environmental monitoring, auditing, assessments, investigations and inspections
- Management of third party contractor services
- Emergency and oil spill preparedness and response
- Ongoing consultation.

#### 4.6. Ongoing Monitoring and Performance Review

Given the nature and scale of the operations in State Waters, Esso will undertake a compliance audit every five years. The audit will contain a detailed assessment of compliance with the environmental performance outcomes and standards and an overview of the effectiveness of control measures (i.e. that impacts and risks are reduced to ALARP and acceptable levels). Findings and recommendations of the audit will be documented and communicated to relevant personnel.

OIMS Assessments are also carried out to confirm that the ongoing monitoring and measurement processes detailed in each of the OIMS systems are being carried out, environmental performance outcomes and standards are being met, and environmental impacts and risks are reduced to ALARP



and managed to acceptable levels. Reviews of the status and effectiveness of each OIMS system are undertaken annually (whether via an internal OIMS assessment, external OIMS assessment, and/or OIMS System reviews).

Monitoring of environmental performance offshore is undertaken on a regular basis through various forums including weekly and monthly leadership meetings, fortnightly site meetings, twice-daily tool box meetings and morning meetings.

Investigations into environmental incidents and non-conformance are conducted in accordance with Esso's Incident Management System (as detailed in OIMS System 9-1 Incident Management). Notification, reporting and investigation of incidents:

- Ensures management, regulatory authorities and other appropriate personnel are notified of all incidents and near misses on a timely basis
- Enables the sharing of learnings throughout the organisation to continuously improve internal health, safety and environment systems
- Identifies corrective actions to prevent re-occurrence
- Enables the analysis and trending of incident data to ensure appropriate focus on emerging issues.

In accordance with Regulation 10 of the Victorian *Offshore Petroleum and Greenhouse Gas Storage Regulations 2011*, Esso will submit a proposed revision of the BSSWEP to DEDJTR before, or as soon as practicable after, a new or significantly increased environmental impact or risk has been identified that is not provided for in the BSSWEP.



## 5. Contact Details

The environmental contact for this activity is:

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