Plan

CDN/ID 3972816

Oil Pollution Emergency Plan

BassGas Offshore Operations

In the event of an oil pollution emergency refer directly to Section 4 (Response Actions)

Revision	Date	Reason for issue	Originator	Reviewers	Approver
2	30/09/2020	Issued to NOPSEMA for re-assessment	Aventus Consulting	P. Wemyss	P. Wemyss
1	14/04/2020	Issued to NOPSEMA for re-assessment, and to ERR for assessment	Aventus Consulting	P. Wemyss	P. Wemyss
0	20/09/2019	Issued to NOPSEMA for assessment	Aventus Consulting	P. Wemyss	P. Wemyss
A	18/09/2019	Internal review	Aventus Consulting	S. Payne, P. Wemyss	-

Review due	Review frequency
Annually from date of acceptance	1 year

THE THREE WHATS

What can go wrong?

What could cause it to go wrong?

What can I do to prevent it?

Table of Contents

Appendices

Abbreviations

Abbreviation	Definition
AIIMS	Australasian Inter-service Incident Management System
AMOSC	Australian Marine Oil Spill Centre
AMSA	Australian Maritime Safety Authority
CEM	Crisis and Emergency Management Framework
CMP	Crisis Management Plan
CMT	Crisis Management Team
CxT	Crisis Communications Team
DELWP	Department of Environment, Land, Water and Planning (Vic)
DJPR EMB	Department of Jobs, Precincts and Regions – Emergency Management Branch (Vic)
DJPR ERR	Department of Jobs, Precincts and Regions – Earth Resources Regulation (Vic)
DPIPWE	Department of Primary Industries, Parks, Waters and Environment (Tas)
EMBA	Environment that May be Affected
EMLO	Emergency Management Liaison Officer
EMP	Emergency Response Plan
EMT	Emergency Management Team
EP	Environment Plan
EPA	Environmental Protection Authority
ERP	Emergency Response Plan
ERT	Emergency Response Team
ESD	Emergency Shut Down
HSE	Health, Safety, and Environment
IMO	International Maritime Organisation
IT DR	Business Continuity and IT Disaster Recovery
JSCC	Joint Strategic Coordination Committee
LoC	Loss of Containment
LoWC	Loss of Well Control
MD	Managing Director
MDO	Marine Diesel Oil
NatPlan	National Plan for Maritime Environmental Emergencies
NEBA	Net Environmental Benefit Analysis
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NOPTA	National Offshore Petroleum Titles Administrator
NRC	National Response Centre
OPEP	Oil Pollution Emergency Plan
OSMP	Operational & Scientific Monitoring Plan

Abbreviation	Definition
OSRL	Oil Spill Response Limited
OSTM	Oil Spill Trajectory Modelling
OWR	Oiled Wildlife Response
PIC	Person In Charge
POLREP	Marine Pollution Report
PSV	Platform Supply Vessel
SC IMT	Source Control Incident Management Team
SCME	State Controller Maritime Emergencies
SITREP	Marine Pollution Situation Report
SME	Subject Matter Expert
SMPEP	Shipboard Marine Pollution Emergency Plan
SOPEP	Shipboard Oil Spill Pollution Emergency Plan
TAEIV	Training and Assessment Certificate IV (4)
VOC	Volatile Organic Compounds
WEMP	Wells Emergency Management Plan
WOMP	Well Operations Management Plan

1 Purpose

The purpose of this Oil Pollution Emergency Plan (OPEP) is to:

- Describe the arrangements regarding Beach Energy (Operations) Ltd (Beach's) access to resources and appropriately trained response personnel in order to effectively respond to and manage an emergency oil spill response in a timely manner.
- Provide a timely implementation of the pre-determined response strategies as outlined in this OPEP, based on credible worst-case hydrocarbon spill risks as presented within the BassGas Operations Environment Plan (EP) (CDN/ID 3972814).
- Ensure the processes and response structures are consistent with those used in applicable government and industry oil spill response plans, namely:
    - The National Plan for Maritime Environmental Emergencies ('NatPlan') (AMSA, 2019).
    - State Maritime Emergencies (non-Search and Rescue) Plan ('VicPlan') (EMV, 2016).
    - Tasmanian Marine Oil Spill Contingency Plan ('TasPlan') (DPIPWE, 2011).
    - NSW State Waters Marine Oil and Chemical Spill Contingency Plan (Transport Roads & Maritime Services, 2016).
    - The AMOSPlan (AMOSC, 2017).
- Ensure effective integration and use of industry and government response efforts and resources.
- Meet the following regulatory requirements:
    - Commonwealth - Regulation 14(8) of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (herein referred to as the OPGGS(E)).
    - Victoria - Regulation 17 of the Offshore Petroleum and Greenhouse Gas Storage Regulations 2011 (herein referred to as the OPGGS Regulations).
    - Tasmania – Regulation 20 of the Petroleum (Submerged Lands) (Management of Environment) Regulations 2012 (herein referred to as the P(SL)(MoE) Regulations).

This OPEP supersedes the Origin Energy Integrated Gas BassGas Offshore OPEP (TAS 9100 SAF PLN, CDN/ID 3973983).

2 The Proponent

The proponent is Beach Energy (Operations) Ltd (Beach).

Beach is the majority owner and the nominated operator for the BassGas Development presented in Figure 2.1. A detailed description of the BassGas Development is presented in Chapter 3 of the EP.

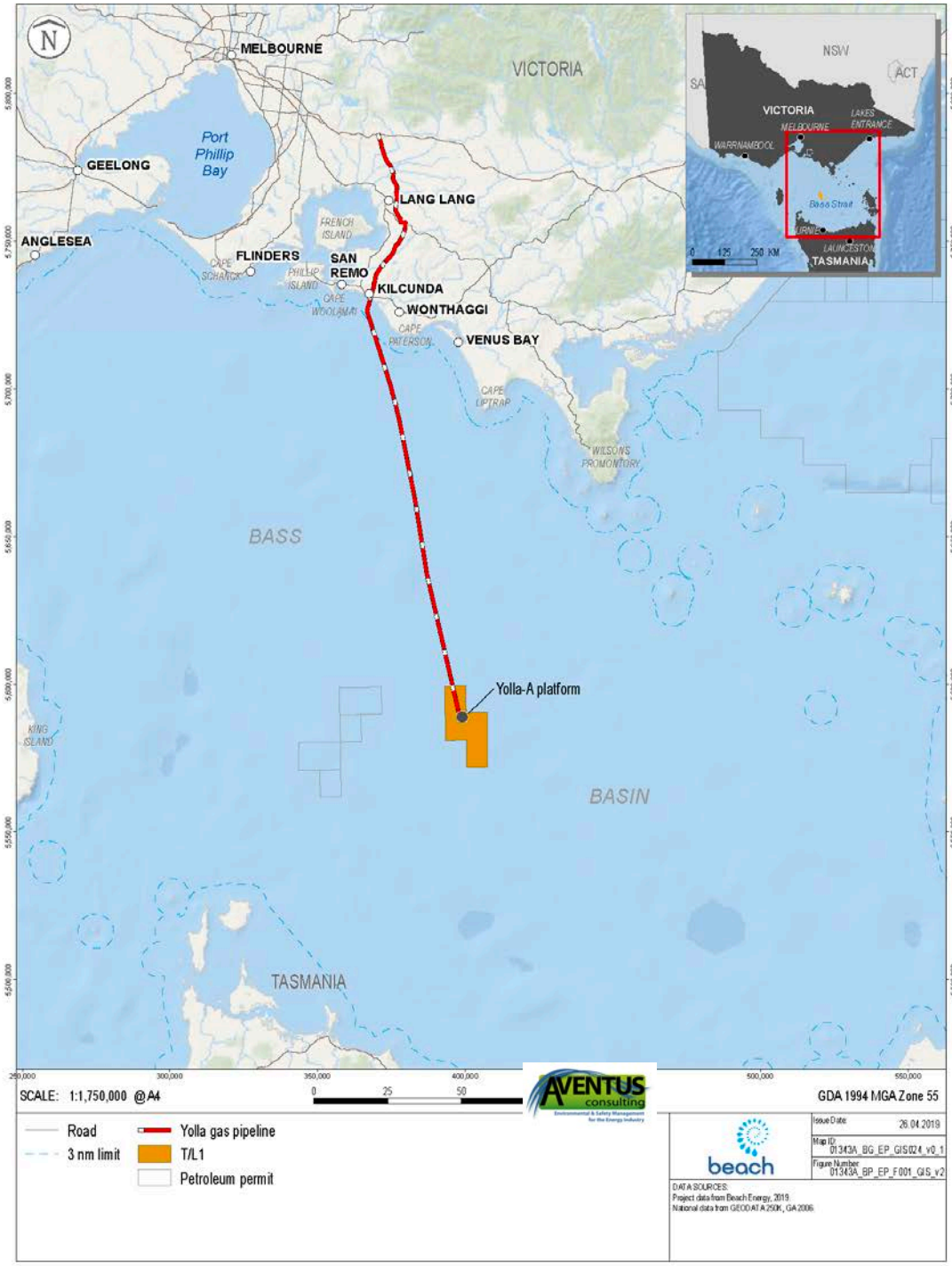


Figure 2.1. BassGas location map

3 Scope

This OPEP covers potential oil pollution emergencies that may result from BassGas operations. Spills from the BassGas Development may impact Commonwealth, Victorian and/or Tasmanian jurisdictions.

The plan recognises the divisions of responsibility as defined under the terms of the NatPlan, which have been incorporated into this OPEP.

The BassGas operations covered by this OPEP are summarised in Table 3.1. A detailed description is available in Chapter 3 of the BassGas Offshore Operations EP.

Table 3.1. Summary of BassGas operations covered by this OPEP

Facility / Activity	Description	Title	Hydrocarbon type	Minimum distance from shore	Water depth (approx.)
Yolla production wells	Four producing Yolla gas wells and two plugged and suspended wells	T/L1	Gas and condensate	93 km	80 m
Yolla-A Platform	Manned Yolla-A production platform, supporting the wellheads and topsides facilities	T/L1	Gas and condensate	93 km	80 m
Yolla offshore Raw Gas Pipeline (RGP)	Offshore RGP system (350 mm diameter) from the platform to the shore crossing near Kilcunda	T/L1	Gas and condensate	0 – 93 km	Shallow to 80 m
Vessel-based activities	Platform support, inspection and maintenance activities	T/L1	Marine diesel oil	Varies	Shallow to 80 m

3.1 Interface with Emergency Response Documents

This OPEP interfaces with the follow emergency response documents:

- BassGas Offshore operations EP (CDN/ID 3972814);
- Vessel-specific Shipboard Oil Pollution Emergency Plan (SOPEP) / Shipboard Marine Pollution Emergency Plan (SMPEP), or equivalent;
- Yolla-A Safety Case (CDN/ID 5214686);
- Lang Lang Gas Plant Safety Case (CDN/ID 5214692);
- BassGas Raw Gas Pipeline - Offshore Pipeline Safety Case (CDN/ID 5214688);
- BassGas Raw Gas Pipeline – PL243 Safety Management Plan (CDN/ID 8201905);
- Yolla Well Operations Management Plan (WOMP) (CDN/ID 3972817);
- BassGas site Emergency Response Plan (ERP) (CDN/ID 3974548);
- Emergency Management Plan (EMP) (CDN/ID 18025990);
- Relief Well Plan (RWP), Otway & Bass (T-5100-35-MP-005); and

- Offshore Victoria Operational and Scientific Monitoring Plan (OSMP) (CDN/ID S4100AH717908) and BassGas Addendum (CDN/ID 18985299).

3.2 Hydrocarbon Types

There are two types of hydrocarbon covered in this OPEP that are associated with the BassGas operations;

- Marine Diesel Oil (MDO) – used in the platform supply vessel (PSV), vessels undertaking inspection and maintenance activities, and used to power the crane and other equipment on the Yolla-A platform; and
- Condensate – produced from the Yolla-3, Yolla-4, Yolla-5 and Yolla-6 wells.

3.2.1 Marine Diesel

MDO is a light petroleum distillate that is predicted to undergo rapid evaporative loss and slicks are expected to break up rapidly. The typical characteristics of MDO are detailed in Table 3.2 and Table 3.3.

Table 3.2. Marine diesel physical characteristics

Parameter	Details
Density (kg/m^3)	829 at 25°C
API	37.6
Dynamic viscosity (cP)	4.0 at 25°C
Pour point (°C)	-14
Oil category	Group II
Oil persistence classification	Light-persistent oil

Table 3.3. Physical characteristics of MDO

	Volatiles	Semi-volatiles	Low Volatiles	Residual Oil
Boiling Point (°C)	< 180	180-265	265-380	> 380
MDO (%)	6.0	34.6	54.4	5.0
Persistence	Non-persistent			Persistent

3.2.2 Yolla Condensate

Liquids associated with gas production from Yolla are condensate. No heavy oil is present. Characteristics of Yolla gas condensate are detailed in Table 3.4. A detailed outline of the composition of Yolla reservoir fluids is presented in Table 3.3 of the EP.

Condensate characteristics indicate that spills of Yolla gas condensate will spread rapidly, with residual hydrocarbons potentially distributed over a large area. Any slicks will break up readily as a result of weathering processes.

Table 3.4. Physical characteristics of Yolla condensate

	Volatiles	Semi-volatiles	Low Volatiles	Residual Oil (%)	Density (kg/m^3 at 15°C)	Dynamic viscosity (cP at 25°C)
Boiling Point (°C)	< 180	180-265	265-380	> 380	770.6	0.14
Yolla condensate (%)	80.0	12.0	6.55	1.45		
Persistence	Non-persistent			Persistent		

3.3 Potential Spill Scenarios

The potential worst-case hydrocarbon spill scenarios relating to BassGas offshore operations are:

- A loss of well control (LoWC) at Yolla-A of 204,250 bbl/day for 86 days;
- A loss of containment (LoC) from the offshore raw gas pipeline of 3,144.9 bbl of condensate over 57.6 minutes at the 3 nm State/Commonwealth waters boundary; and
- A LoC of MDO from a vessel fuel tank (300 m^3) over 6 hours as a result of a vessel collision.

To understand the risks posed by these hydrocarbon spill scenarios, Beach commissioned RPS (2020) to undertake oil spill trajectory modelling (OSTM) using the Yolla condensate properties and MDO properties outlined in Section 3.3.

An analysis of the modelling results for visual and 'actionable' surface and shoreline exposure (i.e., hydrocarbons that can be responded to), minimum time to shoreline contact and maximum shoreline loading is presented in Table 3.5. Assessment of the environmental risks associated with these hydrocarbon spill scenarios is presented in Sections 7.15, 7.16 and 7.17 of the BassGas Offshore Operations EP.

3.4 Spill Modelling Analysis

Table 3.5 provides a summary of the OSTM sea surface and shoreline results. Oil in the water column (entrained and dissolved aromatic hydrocarbons) is not relevant to the OPEP given that this oil cannot be responded to. The OSTM is based on 100 spill trajectories per scenario during annualised conditions.

3.5 Actionable Response Areas

Figure 3.1 illustrates the areas where a response could be undertaken to contain and recover oil, deflect oil, or mount a shoreline clean-up operation. To determine these 'actionable' areas, the following oil exposures are used from *National Plan response, assessment and termination of cleaning for oil contaminated foreshores* (AMSA, 2015):

- A sea surface oil exposure >10 g/m^2 (0.01 mm thick) – this represents the practical limit for surface response options. Below this thickness, oil containment, recovery and chemical treatment (dispersant) become ineffective.
- A shoreline contact exposure of 100 g/m^2 (0.1 mm thick) – this represents the minimum thickness that does not inhibit the potential for recovery and is best remediated by natural coastal processes alone.

The actionable area is based on extrapolating the MDO and condensate OSTM results (from a point where the offshore RGP intersects the 3 nm state waters boundary). Note that there are no identified actionable response areas within Tasmanian State waters or shorelines.

Table 3.5. Summary of BassGas sea surface and shoreline OSTM results

Spill Scenario	LoWC	Pipeline Rupture	Vessel Spill
Location	Yolla wells	3 nm from shore	3 nm from shore
Product	Condensate	Condensate	MDO
Release volume	204,250 bbl	3,144.9 bbl	300 m^3
Duration	86 days	57.6 minutes	6 hours
Sea Surface			
1 – 10 g/m^2 (barely visible)	Up to 17.3 km from release site	Up to 9.4 km from release site	Up to 26.6 km from release site
10 – 50 g/m^2 (Actionable)	Nil	Up to 3 km from release site	Up to 10.7 km from release site
≥ 50 g/m^2 (Actionable)	Nil	Up to 0.7 km from the release site	Up to 2.5 km from release site
Shoreline			
Maximum length of shoreline contacted >100 g/m^2 (Actionable)	No contact	4 km	7 km
Maximum length of shoreline contacted >1,000 g/m^2 (High loading)	No contact	No contact	4 km
Absolute minimum time before contact at or above the low threshold	No contact	12 hours	10 hours
Mean maximum volume on shoreline	No contact	6.8 m^3	24 m^3

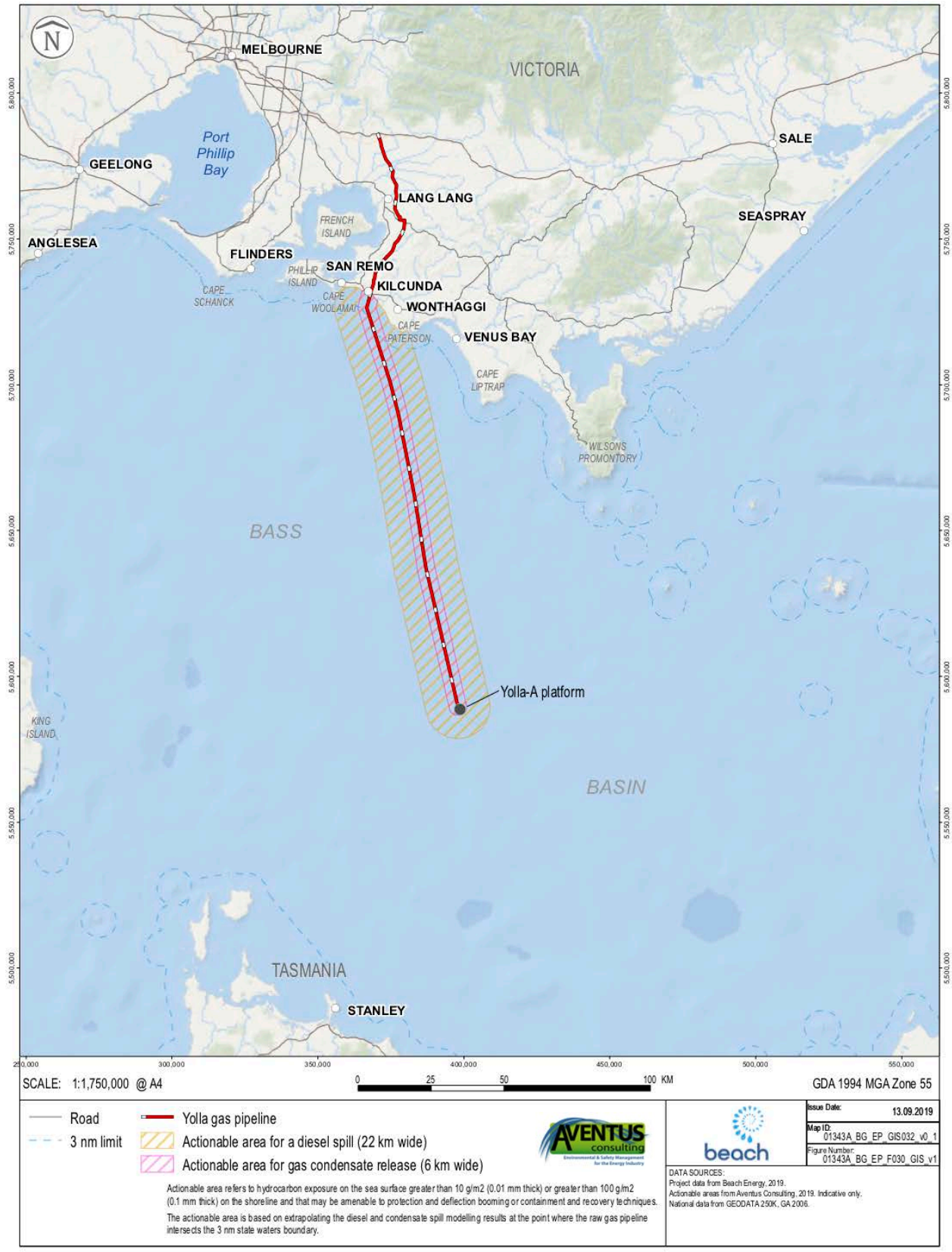


Figure 3.1. Area of actionable oil

4 Response Actions

4.1 Response Levels

4.1.1 Level of Spill

In line with the NatPlan and for the purpose of response planning, marine oil spills are divided into three 'levels'. Depending on the spill size, the level structure allows for escalation of the response according to the risk of impacts, appropriate response actions and resources required for the response.

The levels and associated response adopted by Beach are as per the NatPlan and are outlined herein.

Level 1 Spill

A Level 1 spill is defined by AMSA as incidents that are generally able to be resolved through the application of local or initial resources only (first strike capability, such as the response capabilities of the platform, or support vessel resources).

The control agency (the agency or company assigned to control response activities) is:

- Beach will be in control of the response for spills from the platform, wells or pipeline; and
- AMSA will be in control of Level 1 spills from the vessels, whether they are within or outside of the 500-m radius Yolla-A petroleum safety zone (PSZ).

A summary of Level 1 control agencies is presented in Table 4.1.

Table 4.1. Level 1 Spill Control Agencies

Spill Scenario	Control Agency
Condensate release from platform, wells or pipeline	Beach
Vessel loss of containment within the 500-m radius platform PSZ or 500-m radius of the offshore RGP	AMSA
Vessel loss of containment not within the 500-m radius PSZ of Yolla or 500-m radius of the offshore RGP	AMSA

Level 2 Spill

AMSA defines a Level 2 spill as an incident that is more complex in size, duration, resource management and risk and may require deployment of jurisdiction resources beyond the initial (first strike) response (i.e., a spill that is beyond the capabilities of Beach and its on-site contractors on the platform or vessels).

In terms of control agency:

- Beach will remain in control of the response for Level 2 spills in Commonwealth waters from the platform, wells or pipeline;
- The Victorian Government (DJPR) will control level 2 condensate and vessel spills within state waters with support from Beach; and
- AMSA will control level 2 vessel spills within Commonwealth waters with continued support from Beach.

For a Level 2 Spill, Beach will activate the Emergency Management Team (EMT) in Adelaide, which reflects the Australasian Inter-service Incident Management System (AIIMS) structure and who will ensure adequate response support/coordination is allocated.

A summary of Level 2 control agencies is presented in Table 4.2.

Table 4.2. Level 2 Spill Control Agencies

Spill Scenario	Control Agency
Condensate release from platform, wells or offshore RGP impacting Commonwealth waters (>3 nm)	Beach
Condensate release from platform, wells or pipeline impacting Victorian waters (<3 nm)	Vic DJPR (EMB)
Vessel spills impacting Commonwealth waters (> 3 nm)	AMSA
Vessel spills impacting Victorian waters (<3 nm)	Vic DJPR (EMB)

In the event of a Level 2 spill, resources and personnel will be requested via the Australian Marine Oil Spill Centre (AMOSC) in Geelong, with whom Beach has an existing arrangement to provide spill response support. AMOSC will respond in accordance with AMOSPlan arrangements and will co-ordinate the deployment of the core group members and resources, while also providing technical support. Members of AMSA's National Response Team (NRT) can also be utilised.

Level 3 Spill

AMSA defines Level 3 incidents as those characterised by a degree of complexity that requires the Incident Controller (EMT Leader) to delegate all incident management functions to focus on strategic leadership and response coordination and may be supported by national and international resources. Essentially, this spill level is defined as a spill where the response is beyond the resources and capabilities of Beach and its national support agencies. International assistance is likely to be required. Control Agency responsibilities are as for Level 2 spills.

Beach can access international resources such as Oil Spill Response Limited (OSRL), through engagement at time of need to provide equipment and specialist resources to a Level 3 hydrocarbon spill. This level of spill response is unlikely based on the OSTM results and the national response resources available.

4.2 Control Agencies

This plan recognises that under existing Commonwealth and State Intergovernmental Agreements, authorities have been nominated with statutory and control responsibility for spills within harbours, State waters and Commonwealth waters around Australia.

While Beach remains accountable for spills relating to its petroleum operations, the nominated Control Agency will vary depending on source, size and location of the spill as defined in Table 4.1.

Note that state agencies such as the Emergency Response Branch (EMB) of the Victorian Department of Jobs, Precincts and Regions (DJPR) or the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE), may assume Incident Control in state waters under the following circumstances:

- The incident is greater than a Level 1 spill in state waters and requires immediate escalation;
- The incident occurred in Commonwealth waters, but has impacted on State waters;
- The Control Agency has requested State assistance; and
- The State believes that Beach is not implementing an appropriate response to the incident.

Note that the OSTM indicates that there is no actionable oil on the sea surface or shoreline in the Tasmanian jurisdictions.

4.2.1 Victorian State Arrangements

In the event that an incident in Commonwealth waters has impacted into Victorian State waters, DJPR will only assume Incident Control over the impacted area in State waters while Beach (or other Control Agency) will remain responsible for managing the spill outside Victorian coastal waters. This will occur in consultation with the State.

While DJPR is the Control Agency for marine pollution in Victorian State waters, Beach shall conduct initial necessary response actions in State waters in accordance with this OPEP. Beach will continue to manage those operations until formal incident control can be established by DJPR.

Upon establishment of incident control by DJPR, Beach shall continue to provide planning and resources in accordance with this OPEP. This includes response assets and contracts specified in this OPEP, such as those pertaining to equipment, waste management, transport and personnel (operational and EMT staff) as well as arrangements with third-party response service providers. For response in State waters, DJPR will use the accepted OPEP as a starting point for a response. DJPR reserves the right to deviate from this OPEP in circumstances where there is a justifiable cause, in consultation with Beach. In this instance, Beach shall consult with NOPSEMA and DJPR Earth Resources Regulation (ERR) on any possible compliance ramifications.

If an incident affecting wildlife occurs in Commonwealth waters close to Victorian State waters, AMSA will request support from the Department of Environment, Land, Water and Planning (DELWP) to assess and lead a wildlife response if required. DELWP may also place a DELWP Liaison Officer in a state-based oil spill Incident Management Team (IMT) and/or the Beach ERT.

In the event DJPR is leading an oil spill response within Victorian State waters, a joint IMT will be established. The joint IMT is to ensure a coordinated response between lead agencies.

DELWP will lead the wildlife response within the IMT under guidance from its own response plans and arrangements.

Additional detail on the management of a cross-jurisdiction marine pollution incident that originates in Commonwealth waters and results in DJPR exercising its control agency obligations in State waters is provided in Section 5.6.

4.2.2 Tasmanian State Arrangements

While the OSTM indicates that there is no actionable oil on the sea surface or shoreline in the Tasmanian jurisdictions, a description of Tasmanian oil spill response arrangements is provided here for completeness.

Under the *Pollution of Water by Oil and Other Noxious Substances Act 1987*, the Tasmanian Environmental Protection Authority (EPA) Division (DPIPWE) is responsible for preparedness for and responding to oil and chemical spills in Tasmania. Activities that the EPA Division undertakes to ensure Tasmania is prepared in the event of an oil spill include:

- Developing and managing oil spill response capabilities in Tasmania;
- Providing resources and support during marine oil spill response operations in Tasmania;
- Developing and delivering appropriate training programs for marine oil spill response around the State;
- Assisting ports and industry in developing marine oil spill contingency plans in line with TasPlan;
- Providing 24 hour on call support for marine oil spills;
- Developing national networks to ensure Tasmania is up to date in oil spill response techniques;
- Maintaining the Oil Spill Response Atlas (OSRA); and
- Raising community awareness about the impact of marine oil spills.

In the event that an incident in Commonwealth waters has impacted on Tasmanian State waters, DPIPWE will only assume Incident Control over the impacted area in State waters while Beach (or other Control Agency) will remain responsible for managing the spill outside Tasmanian coastal waters in consultation with the State.

When under direction of DPIPWE, a Beach Emergency Management Liaison Officer (EMLO) trained in AIIMS and conversant with DPIPWE's processes and expectations shall be allocated to DPIPWE.

The Tasmanian Oiled Wildlife Response Plan (WildPlan) is administered by the Resource Management and Conservation Division of the DPIPWE and outlines priorities and procedures for the rescue and rehabilitation of oiled wildlife.

4.2.3 New South Wales State Arrangements

Marine oil spills from trading ships and commercial vessels that originate in or enter NSW state waters are managed under the New South Wales (NSW) State Waters Marine Oil and Chemical Spill Contingency Plan (Rev 6, December 2016), which is a sub-plan to the NSW State Emergency Management Plan (and NatPlan). Transport for NSW (Industry and Environment, Maritime) is the key agency responsible for implementing this plan. The key legislation relevant to marine oil spills in NSW state waters is the *Marine Pollution Act* 2012.

The OSTM indicates that there is no actionable oil on the sea surface or shoreline in NSW (it is limited to low concentrations of entrained MDO). In the event of an MDO spill from BassGas activities that threatened NSW state waters, the NSW State Waters Marine Oil and Chemical Spill Contingency Plan would be activated by Beach providing a pollution report to Transport for NSW. For the southern-most NSW coastline, Transport for NSW will forward this to the Port Authority of NSW (specifically the Port of Eden) and should a response (such as monitoring) be necessary, the Port Authority of NSW would act in the capacity as Combat Agency and provide an Incident Controller, trained equipment operators and equipment for the spill within NSW waters.

Table 4.3 summarises the statutory and control agencies for the various spill sources and levels.

Table 4.3. Statutory and Control Agencies

Spill Source	Spill level	Impact to State waters	Impact to Commonwealth waters	Statutory Agency	Control Agency
Condensate release from platform, wells or pipeline	1	✓		Vic DJPR	Beach
			✓	NOPSEMA	Beach
	2	✓		Vic DJPR	Vic DJPR
			✓	NOPSEMA	Beach
	3	✓		Vic DJPR	Vic DJPR
			✓	NOPSEMA	Beach
MDO release from vessel	1	✓		Vic DJPR	AMSA
			✓	AMSA	AMSA
			✓ (within 500 m)	NOPSEMA	AMSA
	2 and 3	✓		Vic DJPR	Vic DJPR
			✓	AMSA	AMSA

4.3 Immediate Actions and Notification Requirements (contacts correct as of March 2020)

4.3.1 Vessel Spill (Level 1, 2 or 3)

Table 4.4 lists the actions and notifications required for a vessel spill.

Table 4.4. Immediate Actions – Vessel Spill

Item	Action	Responsibility	Timing
1.	**Initial Emergency Actions**		
1.1	Implement the relevant emergency response procedures to protect human life and the environment in accordance with the vessel SOPEP / SMPEP	Vessel Master	ASAP
1.2	Identify any potential fire risks and attempt to isolate the supply of oil to the spillage	Vessel Master	ASAP
1.3	Identify the extent of spillage and the weather/sea conditions in the area	Vessel Master	ASAP
1.4	Notify BassGas Production Manager	Vessel Master	ASAP
1.5	Notify vessel owner	Vessel Master	ASAP
2.	**Level 1 Notifications**		
2.1	Any vessel collision with a facility or other vessel within Commonwealth waters and/or any hydrocarbon spill >80 litres AMSA: Ph: 1800 641 792 Email: mdo@amsa.gov.au NOPSEMA: Ph: 1300 674 472 Email: submissions@nopsema.gov.au	Vessel Master, BassGas Production Manager	ASAP but not later than 2 hours after collision / spill
2.2	Spill with potential to impact Australian Marine Park(s) (AMPs) or impact matters of national environmental significance (MNES, including potential for oiled wildlife), contact: Director of National Parks via Marine Compliance Duty Officer (24-hr): 0419 293 465 Provide: • Titleholder details; • Time and location of the incident (including name of marine park likely to be affected); • Proposed response arrangements as per the Oil Pollution Emergency Plan (e.g. dispersant, containment, etc.); • Confirmation of providing access to relevant monitoring and evaluation reports when available; and • Contact details for the response coordinator. Department of Agriculture, Water and the Environment (DAWE): Ph: (02) 6274 1111	Vessel Master, BassGas Production Manager	ASAP
2.3	Within or potential for moderate to significant environmental damage to Victorian State waters – refer to EP for clarification DJPR EMB: Ph: 0409 858 715 (24/7) and Email: semdincidentroom@ecodev.vic.gov.au	Vessel Master, BassGas Production Manager	ASAP
2.4	Within or potential for release to cause, or may cause, environmental harm or environmental nuisance in Tasmanian State waters (<3 nm) – refer to EP for clarification DPIPWE: Ph: +61 (0)3 6165 4599 or 1800 005 171 (within Tasmania only)	Vessel Master, BassGas Production Manager	ASAP

Item	Action	Responsibility	Timing
	Radio: TasPorts Vessel Traffic Services VHF radio channel 16/14/12 Call sign "relevant port name VTS" Email: incidentresponse@epa.tas.gov.au		
2.5	Within port boundary or potential impact to Port boundary – notify relevant Port Authority	Vessel Master	ASAP
2.6	Notify and escalate to the EMT if available response resources are inadequate	BassGas Production Manager	ASAP
3.	**Level 2 or 3 Notifications**		
3.1	Notify and escalate to the EMT	BassGas Production Manager	ASAP
3.2	Any vessel collision with a facility or other vessel within Commonwealth waters and/or any Level 2 or 3 vessel spill AMSA: Ph: 1800 641 792 Email: mdo@amsa.gov.au NOPSEMA: Ph: 1300 674 472 Email: submissions@nopsema.gov.au	EMLO	ASAP but not later than 2 hours after becoming aware of spill
3.3	Spill with potential to impact AMPs or impact MNES (including potential for oiled wildlife), contact Director of National Parks via Marine Compliance Duty Officer (24-hr): 0419 293 465 Provide: • Titleholder details; • Time and location of the incident (including name of marine park likely to be affected); • Proposed response arrangements as per this OPEP; • Confirmation of providing access to relevant monitoring and evaluation reports when available; and • Contact details for the response coordinator. DAWE: Ph: (02) 6274 1111	EMLO	ASAP
3.4	Within Commonwealth waters – written report to NOPSEMA: Email: submissions@nopsema.gov.au and NOPTA: Email: info@nopta.gov.au	EMLO	Within 3 days of spill
3.5	Within or potential for moderate to significant environmental damage to Victorian State waters – refer to EP for clarification or the impact of wildlife (including cetaceans) DJPR EMB: Ph: 0409 858 715 (24/7) and Email: semdincidentroom@ecodev.vic.gov.au and DELWP: Ph: 1300 134 444 Email: sscviv.scmdr.delwp@scc.vic.gov.au	EMLO	ASAP
3.6	Within or potential for release to cause, or may cause, environmental harm or environmental nuisance in Tasmanian State waters – refer to EP for clarification DPIPWE: Ph: +61 (0)3 6165 4599 or 1800 005 171 (within Tasmania only) Radio: TasPorts Vessel Traffic Services VHF radio channel 16/14/12 Call sign "relevant port name VTS" Email: incidentresponse@epa.tas.gov.au	EMLO	ASAP (first instance of oil on/in water)
3.7	Within or potential for moderate to significant environmental damage to New South Wales state waters – refer to EP for clarification	EMLO	ASAP

Item	Action	Responsibility	Timing
	Port Authority of NSW: Ph: +61 (0)2 6496 1719 or 0438 374 034 Email: edenpilots@portauthoritynsw.com.au Transport for NSW: Ph: 0419 484 446 Email: Shayne.Wilde@transport.nsw.gov.au		
3.8	Anywhere along the raw gas pipeline, which may flow towards the Watersure desalination plant water intakes near Wonthaggi. Watersure: Ph: 03 5671 9041 (control room) Ph: 0447 750 066, email: Julien.tauvry@watersure.com.au (Operations Manager) Ph: 0434 311 649, email: greig.mercer@watersure.com.au (Plant Director)	EMLO	ASAP
3.9	Within port boundary or potential impact to port boundary – notify relevant Port Authority	Vessel Master	ASAP
3.10	Complete Level 2/3 Incident Report (Appendix C.4)	EMLO	ASAP
3.11	Confirm takeover of incident control by AMSA or State agency as the Control Agency	EMT Operations	ASAP
4.	**Level 2 or 3 Monitoring, Evaluation & Surveillance**		
4.1	Request assistance from AMOSC via execution of Service Contract/Service Note as directed by Control Agency	EMT Leader	ASAP
4.2	Mobilise surveillance by aircraft via service provider as directed by Control Agency	EMT Logistics	ASAP
4.3	Initiate OSTM via service provider as directed by Control Agency	EMT HSE	ASAP
5.	**Level 2 or 3 Oil Spill Response**		
5.1	Provide support and information to the Control Agency as directed	EMT Leader	As directed
5.2	Determine and implement offshore and onshore response options for oil spill tracking, dispersion, containment, collection, treatment, oiled wildlife response & shoreline clean-up in consultation with and as directed by Control Agency	EMT Operations Lead / EMT HSE	As directed
5.3	Monitor shoreline and intertidal zones to identify areas affected by the oil spill and to determine the nature of the impact as directed by Control Agency	EMT HSE	As directed
5.4	Complete role-specific ongoing actions as outlined in Appendix B of ERP	All EMT	ASAP
6.	**Ongoing Monitoring**		
6.1	Implement Beach Offshore Victoria OSMP	EMT HSE	As required

4.3.2 Loss of Containment – Platform or Pipeline (Level 2 or 3)

Table 4.5 lists the actions and notifications required for a LoC from the Yolla wells or offshore RGP.

Table 4.5. Immediate Actions – LoC from Platform or Pipeline

Item	Action	Responsibility	Timing
1.	**Initial Emergency Actions**		
1.1	Implement the relevant emergency response procedures to protect human life and the environment and in particular, those procedures focused at reducing the risk of fire or explosion	Yolla PIC	ASAP

Item	Action	Responsibility	Timing
1.2	Identify any potential fire risks and attempt to isolate the supply of oil to the spillage	Yolla PIC	ASAP
1.3	Identify the extent of spillage and the weather/sea conditions in the area	Yolla PIC	ASAP
1.4	Notify BassGas Production Manager	Yolla PIC	ASAP
1.5	Notify Operations Manager	BassGas Production Manager	ASAP
2.	**Level 1 Notifications**		
2.1	Within Commonwealth waters and/or any hydrocarbon spill >80 litres NOPSEMA: Ph: 1300 674 472 Email: submissions@nopsema.gov.au	BassGas Production Manager	ASAP but not later than 2 hours after spill
2.2	Spill with potential to impact AMPs or impact MNES (including potential for oiled wildlife), contact Director of National Parks via Marine Compliance Duty Officer (24-hr): 0419 293 465 Provide: • Titleholder details; • Time and location of the incident (including name of marine park likely to be affected); • Proposed response arrangements as per this OPEP; • Confirmation of providing access to relevant monitoring and evaluation reports when available; and • Contact details for the response coordinator. DAWE: Ph: (02) 6274 1111	Operations Manager	ASAP
2.3	Within or potential for moderate to significant environmental damage to Victorian State waters – refer to EP for clarification DJPR EMB: Ph: 0409 858 715 (24/7) and Email: semdincidentroom@ecodev.vic.gov.au	BassGas Production Manager	ASAP
2.4	A release or potential release from pipeline within 3 nm DJPR ERR: Ph: 0419 597 010 (ERR Duty Officer)	BassGas Production Manager	ASAP
2.5	Anywhere along the raw gas pipeline, which may flow towards the Watersure desalination plant water intakes near Wonthaggi. Watersure: Ph: 03 5671 9041 (control room) Ph: 0447 750 066, email: Julien.tauvry@watersure.com.au (Operations Manager) Ph: 0434 311 649, email: greig.mercer@watersure.com.au (Plant Director)	BassGas Production Manager	ASAP
2.6	Complete Level 1 Incident Report (Appendix C. 3)	BassGas Production Manager	ASAP
2.7	Notify and escalate to the EMT if available response resources are inadequate	BassGas Production Manager	ASAP
3.	**Level 2 or 3 Notifications**		
3.1	Notify and escalate to the EMT	BassGas Production Manager	ASAP
3.2	Within Commonwealth waters NOPSEMA: Ph: 1300 674 472 Email: submissions@nopsema.gov.au	EMLO	ASAP but not later than 2 hours after becoming

Item	Action	Responsibility	Timing
			aware of spill
3.3	Within Commonwealth waters – written report to NOPSEMA: Email: submissions@nopsema.gov.au and NOPTA: Email: info@nopta.gov.au	EMLO	Within 3 days of spill
3.4	Spill with potential to impact AMPs or impact MNES (including potential for oiled wildlife), contact Director of National Parks via Marine Compliance Duty Officer (24-hr): 0419 293 465 Provide: • Titleholder details; • Time and location of the incident (including name of marine park likely to be affected); • Proposed response arrangements as per this OPEP; • Confirmation of providing access to relevant monitoring and evaluation reports when available; and • Contact details for the response coordinator. DAWE: Ph: (02) 6274 1111	EMLO	ASAP
3.5	Within or potential for moderate to significant environmental damage to Victorian State waters – refer to EP for clarification or the impact of wildlife (including cetaceans) DJPR EMB: Ph: 0409 858 715 (24/7) and Email: semdincidentroom@ecodev.vic.gov.au DELWP: Ph: 1300 134 444 Email: sscviv.scmdr.delwp@scc.vic.gov.au	EMLO	ASAP
3.6	Within or potential for release to cause, or may cause, environmental harm or environmental nuisance in Tasmanian State waters – refer to EP for clarification DPIPWE: Ph: +61 (0)3 6165 4599 or 1800 005 171 (within Tasmania only) Radio: TasPorts Vessel Traffic Services VHF radio channel 16/14/12 Call sign "relevant port name VTS" Email: incidentresponse@epa.tas.gov.au	EMLO	ASAP (first instance of oil on/in water)
3.7	Within or potential for moderate to significant environmental damage to New South Wales State waters – refer to EP for clarification Port Authority of NSW: Ph: +61 (0)2 6496 1719 or 0438 374 034 Email: edenpilots@portauthoritynsw.com.au Transport for NSW: Ph: 0419 484 446 Email: Shayne.Wilde@transport.nsw.gov.au	EMLO	ASAP
3.8	Confirm takeover of incident by State agency (DJPR) as the Control Agency	EMT Operations	ASAP
3.9	Notify AMSA and request 500 m exclusion zone from location of the spill AMSA: Ph: 1800 641 792 Email: mdo@amsa.gov.au	EMT Operations	ASAP
3.10	Anywhere along the raw gas pipeline, which may flow towards the Watersure desalination plant water intakes near Wonthaggi. Watersure: Ph: 03 5671 9041 (control room) Ph: 0447 750 066, email: Julien.tauvry@watersure.com.au (Operations Manager) Ph: 0434 311 649, email: greig.mercer@watersure.com.au (Plant Director)	BassGas Production Manager	ASAP

Item	Action	Responsibility	Timing
3.11	Complete Level 2/3 Incident Report (Appendix C. 4)	EMLO	ASAP
3.12	Notify and escalate to CMT if Level 3 response required	EMT Leader	ASAP
4.	**Level 2 or 3 Monitoring, Evaluation & Surveillance**		
4.1	Request assistance from AMOSC via execution of Service Contract/Service Note or as requested by Control Agency	EMT Leader	ASAP
4.2	Mobilise surveillance by aircraft via service provider or as requested by Control Agency	EMT Logistics	ASAP
4.3	Initiate OSTM via service provider or as requested by Control Agency	EMT Planning	ASAP
5.	**Level 2 or 3 Oil Spill Response**		
5.1	Assess the feasibility and safety risks to implement source control. Develop source control strategy and implement when safe to do so.	EMT Leader	ASAP
5.2	For loss of integrity from wells, inform Beach EMT – see Table 4.4 below for immediate actions	EMT Leader	ASAP
5.3	Determine and implement offshore and onshore response options for oil spill tracking, collection, treatment and clean-up as directed by Control Agency	EMT Operations Lead / EMT HSE	As directed
5.4	Determine the likelihood for an oil slick to reach a shoreline and take necessary action as directed by Control Agency	EMT HSE	ASAP & As directed
5.5	Monitor shoreline and intertidal zones to identify areas affected by the oil spill and to determine the nature of the impact as directed by Control Agency	EMT HSE	ASAP & As directed
5.6	Complete role-specific ongoing actions as outlined in Appendix B of ERP	All EMT	ASAP
6.	**Ongoing Monitoring**		
6.1	Implement Beach Offshore Victoria OSMP	EMT HSE	As required

4.3.3 Loss of Well Control (Level 2 or 3)

Table 4.6 lists the actions and notifications required for a LoWC.

Table 4.6. Immediate Actions – Loss of Well Control

Item	Action	Responsibility	Timing
1.	**Initial Emergency Actions**		
1.1	Manage the safety of personnel on platform and in operational area – activate evacuation plans.	Yolla PIC	ASAP
1.2	Notify and escalate to BassGas Production Superintendent. Call National Response Centre (NRC) and activate Beach Emergency Management Team (EMT). NRC: 03 9411 2147	Yolla PIC	ASAP
1.3	If possible/safe to do so, identify the extent of spillage and the weather/sea conditions in the area and provide initial SITREP to EMT Leader	Yolla PIC	ASAP
1.4	If possible/safe to do so, deploy oil spill tracking buoy from platform/vessel	Yolla PIC/Vessel Master	ASAP
1.5	Prepare to control the source - activate the Yolla RWP: • Under direction of the EMT Leader, the SC IMT will be activated;	EMT Leader	ASAP

Item	Action	Responsibility	Timing
	• SC IMT Leader mobilises IMT that consists of well control SMEs; • Contact Boots & Coots and/or Cudd Well Control for procuring suitable well control resources; • Initiate APPEA Memorandum of Understanding: Mutual Assistance to facilitate the transfer of alternate drilling unit and well site services from alternate Operator(s); and • Initiate AMOSC via execution of Service Contract using Service Request for Mutual Aid.		
1.6	Activate EMLO.	Yolla PIC	Within 1 hour
1.7	Notify BassGas Production Manager	BassGas Production Superintendent	Within 1 hour
1.8	Notify Victorian Operations Manager	BassGas Production Manager	ASAP
1.9	EMT Leader to activate EMT	EMT Leader	Within 2 hours
1.10	Implement Team Meeting and Operational Planning Cycle and establish EMT / SC IMT personnel roster providing 24-hour coverage	EMT Leader / EMT Planning	Within 2 hours
1.11	Complete role-specific checklists as outlined in **Appendix 2 of EMP.**	All EMT	As activated
1.12	Manage the safety of all responders – activate the development of a Safety Management Plan	EMT Leader	Within 12 hours
1.13	BOP closure attempts with ROV initiated within 24 hrs	SC IMT Leader	Within 24 hours
1.14	Initiate AMOSC via execution of Service Contract using Service Request for Mutual Aid and engage AMSA to initiate National Response Team (NRT) and National Response Support Team (NRST). AMSA: Ph: 1800 641 792 Email: mdo@amsa.gov.au AMOSC: 0438 379 328	EMT Leader	Within 2 hours
2.	**Level 2 / 3 Notifications**		
2.1	For all LoWC incidents NOPSEMA: Ph: 1300 674 472 Email: submissions@nopsema.gov.au	EMLO	ASAP but not later than 2 hours after becoming aware of spill
2.2	Within Commonwealth waters – written report to NOPSEMA: Email: submissions@nopsema.gov.au and NOPTA: Email: info@nopta.gov.au	EMLO	Within 3 days of spill
2.3	For all LoWC incidents with potential to impact AMPs or impact MNES (including potential for oiled wildlife), contact Director of National Parks via Marine Compliance Duty Officer (24-hr): 0419 293 465 Provide: • Titleholder details. • Time and location of the incident (including name of marine park likely to be affected). • Proposed response arrangements as per the Oil Pollution Emergency Plan (e.g. dispersant, containment, etc.). • Confirmation of providing access to relevant monitoring and evaluation reports when available. • Contact details for the response coordinator.	EMLO	ASAP

Item	Action	Responsibility	Timing
	DAWE: Ph: (02) 6274 1111		
2.4	For all LoWC incidents with potential for moderate to significant environmental damage to Victorian State waters or the impact of wildlife (including cetaceans) DJPR EMB: Ph: 0409 858 715 (24/7) and Email: semdincidentroom@ecodev.vic.gov.au DELWP: Ph: 1300 134 444 Email: sscviv.scmdr.delwp@scc.vic.gov.au	EMLO	ASAP
2.5	For all LOWC incidents with potential to cause, or may cause, environmental harm or environmental nuisance in Tasmanian State waters (<3 nm) – refer to activity-specific EP for clarification DPIPWE: Ph: +61 (0)3 6165 4599 or 1800 005 171 (within Tasmania only) Radio: TasPorts Vessel Traffic Services VHF radio channel 16/14/12 Call sign "relevant port name VTS" Email: incidentresponse@epa.tas.gov.au	EMLO	ASAP (first instance of oil on/in water)
2.6	Within or potential for moderate to significant environmental damage to NSW state waters – refer to EP for clarification Port Authority of NSW: Ph: +61 (0)2 6496 1719 or 0438 374 034 Email: edenpilots@portauthoritynsw.com.au Transport for NSW: Ph: 0419 484 446 Email: Shayne.Wilde@transport.nsw.gov.au	EMLO	ASAP
2.7	Confirm takeover of incident by State agency as the Control Agency (< 3nm)	EMT Lead	ASAP
2.8	Notify AMSA and request 2 km exclusion zone around Yolla-A AMSA: Ph: 1800 641 792 Email: mdo@amsa.gov.au	EMLO	ASAP
2.9	Complete Level 2/3 Incident Report (Appendix C. 4)	EMLO	ASAP
2.10	Notify and escalate to CMT should well flow remain uncontrolled	EMT Lead	ASAP
3.	**Level 2 or 3 Monitoring, Evaluation & Surveillance**		
3.1	Request assistance from AMOSC via execution of Service Contract/Service Note	EMT Lead	ASAP
3.2	Mobilise surveillance by aircraft via service provider	EMT Logistics	ASAP
3.3	Initiate OSTM via service provider	EMT HSE	ASAP
3.4	Instruct project support vessels to perform support and surveillance function and engage Vessel Broker to source additional support / surveillance vessels.	EMT Logistics	ASAP
4.	**Level 2 or 3 Oil Spill Response**		
4.1	Request assistance from well control service provider	SC IMT Leader	ASAP
4.2	Engage vessel broker and commission response vessels	EMT Logistics	Within 2 weeks
4.3	Request assistance from AMOSC via execution of Service Contract/Service Note	EMT Leader	If required
4.4	Request assistance from AMOSC and deploy subsea first response toolkit	EMT Operations	Within 2 weeks
4.5	Deploy drill rig and commence drilling relief well	EMT Operations	Within 8 weeks

Item	Action	Responsibility	Timing
4.6	Determine and implement offshore and onshore response options for oil spill tracking, dispersion, containment, collection, treatment and clean-up or as directed by Control Agency	EMT HSE	ASAP & As directed
4.7	Determine the likelihood for an oil slick to reach a shoreline and take necessary action as directed by Control Agency	EMT HSE	ASAP & As directed
4.8	Monitor shoreline and intertidal zones to identify areas affected by the oil spill and to determine the nature of the impact	EMT HSE	ASAP & As directed
4.9	Complete ongoing actions as outlined in Appendix B of ERP	All EMT	ASAP
5.	**Ongoing Monitoring**		
5.1	Implement Beach Offshore OSMP as directed by State Control Agency and in consultation with Director of National Parks and DAWE.	EMT Leader	ASAP

5 Crisis and Emergency Management (CEM) Framework

The Beach emergency management structure consists of a three-tiered approach, with teams that have specific roles regarding response to and management of emergency and crisis events. Figure 5.1 illustrates this framework and associated protocols for the effective management and coordination of all levels of emergency and crisis events impacting on Beach.

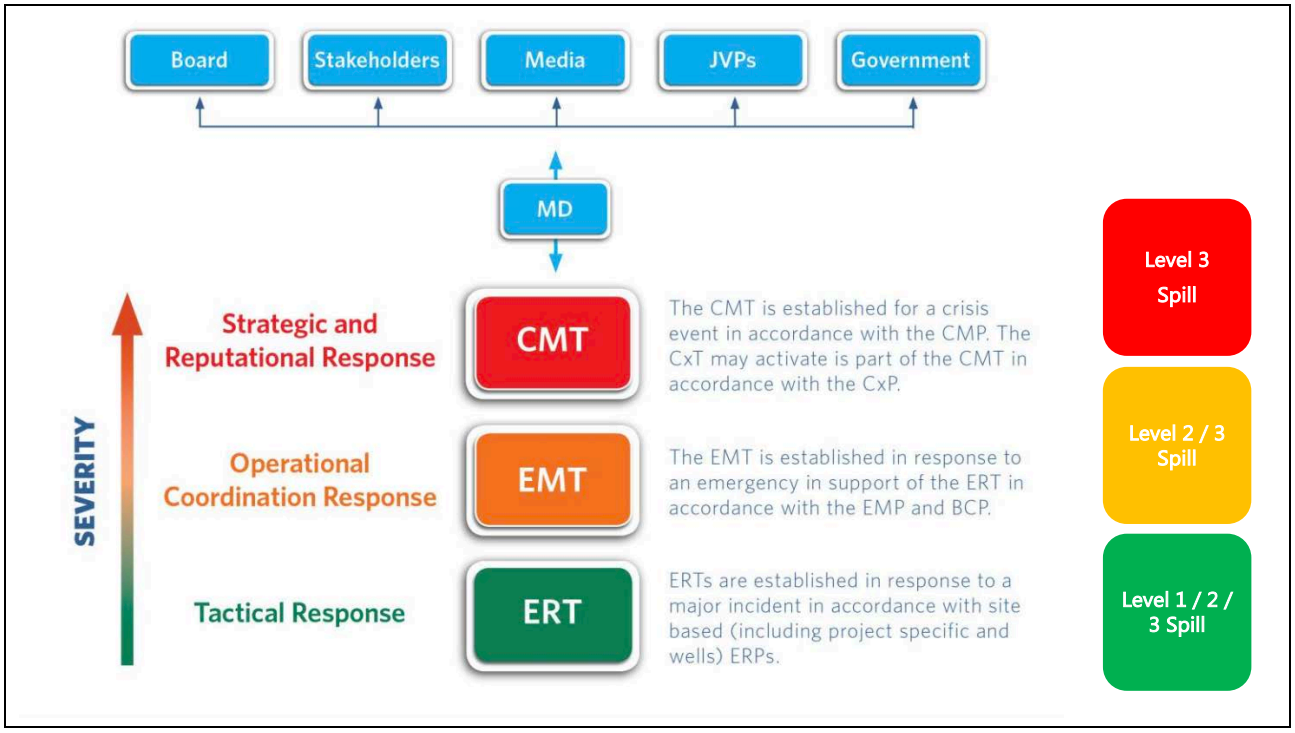


Figure 5.1. Beach Crisis and Emergency Management Framework

In summary:

- Site-based ERTs carry out emergency response activities at the site of the emergency.
- Adelaide- and Melbourne-based EMTs – provide operational management support to the site-based ERT, facilitate planning and liaise with external parties for all events, Australia wide.
- The oil spill/oil pollution response capability lives within the EMT (with IMO3 trained on-call representatives to ensure expedience of access to all company-wide resources required).
- During a spill event, the IMO3 becomes the EMT Leader and the on call EMT Leader becomes the Deputy.
- The Adelaide-based SC IMT interface with the drill rig and implement Beach source control procedures in the event of a LoWC.
- The Adelaide-based CMT undertakes crisis management operations and direct strategic actions at the corporate level, addresses implications of the crisis on the employees, is concerned with the company's reputation, relationships with external parties and joint venture partners.
- The CMT is activated for a crisis event or as directed by the MD or the CMT Leader.

The extent of the response structure will be dictated by the size of the incident and the required response.

5.1 Alignment with National Incident Management System

The structure of Beach's Crisis and Emergency Management system is aligned with the AIIMS but modified enough to allow for established corporate processes and reporting during emergency events. The main nuance is the role change from the on-call EMT Leader to the IMO3 representative to become the EMT Leader in the event of an off-shore oil pollution event, with the on-call EMT Leader taking the role of Deputy and remaining the information conduit into the CMT. See Figures 5.2 and 5.3 for further detail.

5.2 Managing Director

The Beach Managing Director (MD) is the critical interface between the CMT and senior external stakeholders, including, but not limited to the Beach Board of Directors, the media and government.

The CMT Leader keeps the MD apprised of the incident and discusses decisions of the CMT with the MD and renders advice as required. However, the MD may assume the role of CMT Leader.

5.3 Crisis Management Team (CMT)

Leadership of the CMT (structure illustrated in Figure 5.2) is empowered by the Beach MD to assume responsibility for providing strategic support to emergency or crisis events impacting Beach operations or commercial viability.

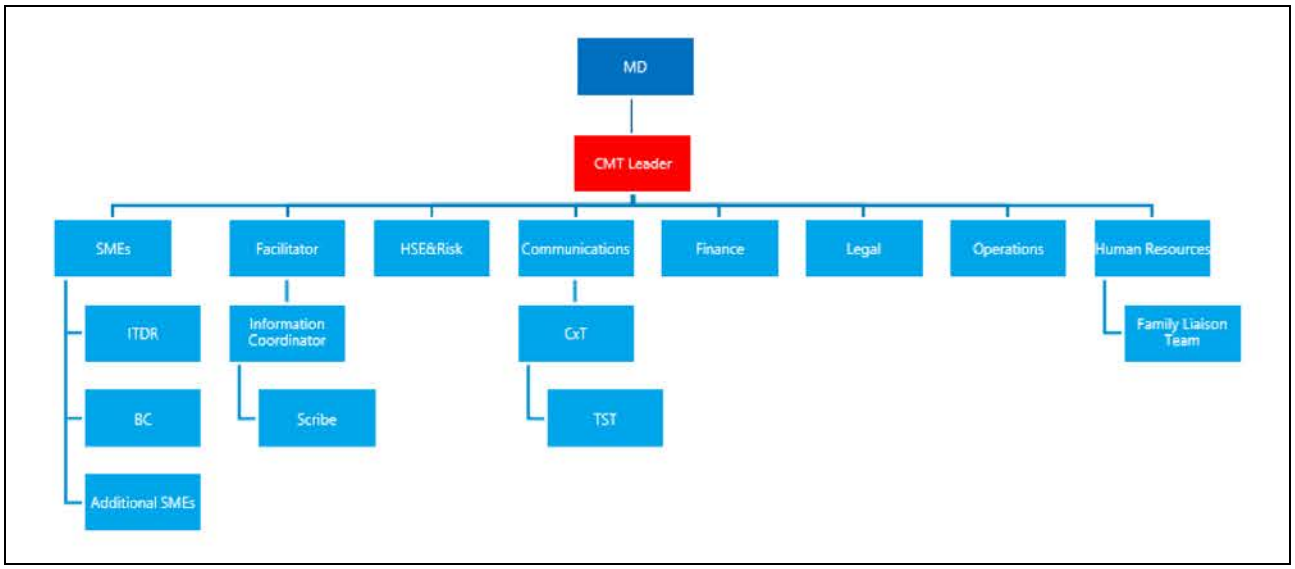


Figure 5.2. Composition of the CMT

5.4 Emergency Management Team (EMT) composition for Offshore Oil Spill/Oil Pollution response

The EMT for all level off-shore oil spill/oil pollution event (Figure 5.3) is led by the IMO Level 3-trained EMT Leader. Beach has an IMO3 qualified representative on-call 24/7. In the event of an offshore oil spill event, the EMT Leader assumes responsibility for implementing this OPEP and the OSMP (under the direction of State regulators within 3 nm). The implementation of the RWP specific to the well, remains the responsibility of EMT Operations. An EMLO is embedded within the EMT and acts as the key interface between the EMT and State Control Agency Incident Management Teams (IMT).

The Deputy EMT Leader is the conduit of information from the EMT to the CMT (CMT Leader or CMT Operations).

The on-call roster operates 24 hours, 7 days a week. There are four Australian based EMTs that are on a weekly roster from
10 am Friday morning to 10 am the following Friday morning. The on-call roster is a live document and is on the Beach Intranet.

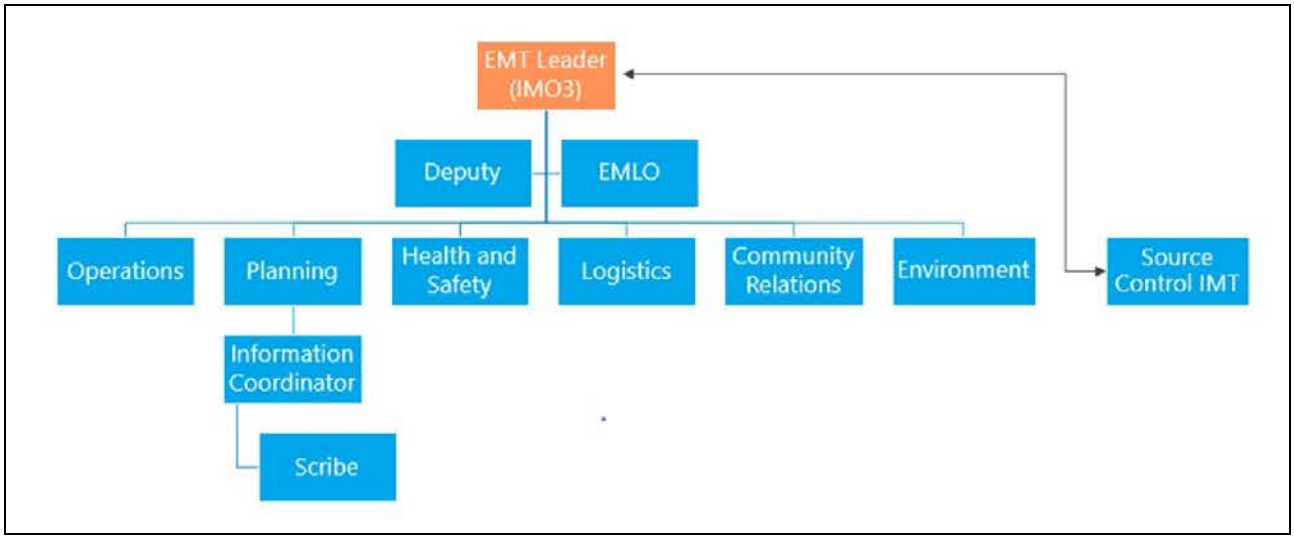


Figure 5.3. Composition of the EMT

5.5 Source Control Incident Management Team (SC IMT)

In the event of an offshore well control incident, the EMT Leader will activate the SC IMT. The SC IMT will continue to report through to the EMT Leader. The primary function of the SC IMT is to bring the well under control, in compliance with emergency response priorities of PEARL (People, Environment, Assets, Reputation, Liability) and will require coordination with the well control company.

The organisation structure and responsibilities of the SC IMT are detailed within the RWP and WOMPs that are produced and maintained by the asset or project owner for all wells. The structure of the SC IMT once activated for source control events is identical for all offshore incidents.

5.6 Emergency Response Team (ERT)

The BassGas ERP (CDN/ID 3974548) outlines the responsibilities of the ERT. For offshore vessels operating under contract to Beach, there are bridging ERPs to ensure adequacy of response to all Level 1 incidents. All plans and responses require notification to the Beach's EMT via the NRC.

All vessels are required to undertake emergency exercises prior to mobilising to Beach's permit area to ensure that communications work and that roles and responsibilities are clearly understood. These exercises are stored in Beach's incident and action reporting software (CMO) – Beach's Emergency incident and action management tracking software.

The ERT is responsible for managing all site incidents and coordinating a local response to any incident. The ERT is responsible for notification to the EMT for any ERT activation, regardless of level.

The National Response Team (NRT) and the National Response Support Team (NRST) provides support to control agencies in the event of a major marine oil pollution incident.

The NRT consists of personnel to fulfil the AIIMS positions listed in Table 5.1.

Table 5.1. NRT positions and numbers required

Role	Positions Required per State/NT	Totals
Planning Officer	1	7
Operations Officer	1	7
Logistics Officer	1	7
Aerial Observer	1	7
Response Team Leader	5	35
Total	**9**	**63**

Source: National Plan National Response Team Policy (NP-POL-002) 10 Nov 2014

The NRST has been developed to provide additional personnel to support an incident response. The following roles have been identified for a national capacity:

- Environmental Advisers
  - Environmental Adviser to Incident Controller
  - Technical Advisers in Planning and Operations (IMT)
  - Field Advisers
- Finance personnel
- Wildlife Coordinator
- Equipment Operators
  - Marco Operator
  - Offshore Containment/Recovery
  - Inshore Containment/Recovery
  - Vessel-based dispersant spraying
  - Dispersant Helicopter Spray Buckets
  - Shoreline Clean-up
- Shoreline assessment personnel.

The Guideline on Accessing National Plan Support Arrangements sets out the initial notification of AMSA regarding the mobilisation of NatPlan equipment and personnel. Once the initial notification has been given to AMSA via the Control Agency, the Incident Controller or one of the IMT members will liaise with AMSA to request and manage personnel from the NRT, NRST and AMOSC Core Group. Requests for personnel should be made to AMSA by telephone request or email to the AMSA Environment Protection Duty Officer or another nominated AMSA person. A verbal request must be confirmed within three (3) hours by an email.

Beach has a Master Service contract with AMOSC. Under this contract:

- AMOSC will use its best endeavours to provide training and response services – generally (but not limited to) three AMOSC personnel or one third of AMOSC's store of equipment or consumables.

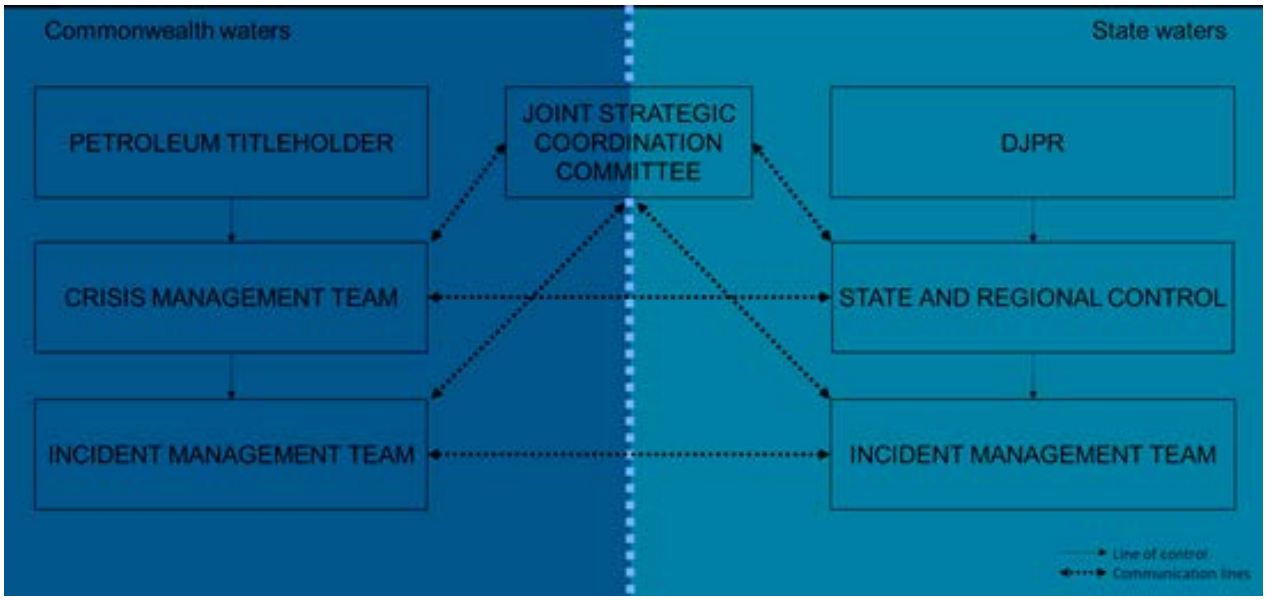
- AMOSC may request that an AMOSC Member provides equipment, consumables or personnel in response to a request for services made by another AMOSC member. As such, Beach has potential access to external resources from other AMOSC Members, both locally and regionally. The personnel available under this mutual aid arrangement form the AMOSC Core Group. The minimum number of AMOSC Core Group members is 84; normally there are more than 100 in the group. AMOSC funds the training, revalidation and management for this number of Core Group members.

Whilst AMOSC provides a supporting role within the EMT, Beach is responsible for the direction and control of all activities and matters during the 'Deployment Period' and all activities and matters at the deployment locations in consultation and agreement with the relevant Control Agency.

5.7 Joint Strategic Coordination Committee (Victoria)

The following section has been adapted from DJPR guidance.

Transboundary arrangements from state to state is covered by the NatPlan. Where Victorian State waters are impacted by cross-jurisdictional marine pollution incidents, DJPR will only assume the role of Control Agency for response activities occurring in Victorian State waters, in accordance with the State Maritime Emergencies (non-search and rescue) Plan. In this instance, Beach and DJPR shall work collaboratively, sharing response resources and providing qualified personnel to the DJPR IMT. To facilitate effective coordination between the two control agencies and their respective IMT, a Joint Strategic Coordination Committee (JSCC) shall be established. The control and coordination arrangements for cross-jurisdictional maritime emergencies is outlined in Figure 5.4.



Source: DJPR (2019)

Figure 5.4. Joint Strategic Coordination Committee (Victoria) structure.

The role of the JSCC is to ensure appropriate coordination between the respective IMTs established by multiple control agencies. The key functions of the JSCC include:

- Ensuring key objectives set by multiple IMTs in relation to the marine pollution incident are consistent and focused on achieving an effective coordinated response;

- Resolving competing priorities between multiple IMTs;

- Resolving competing requests for resources between the multiple IMTs, including those managed by AMSA, such as national stockpile equipment, dispersant aircraft and the NRT;
- Resolution of significant strategic issues as they arise during the incident response;
- Ensuring that there is a shared understanding of the incident situation and its meaning amongst all key stakeholders;
- Ensuring there is agreement on how information is communicated to the public, particularly those issues that have actual or perceived public health implications; and
- Ensuring adequate coordination and consistency is achieved in relation to access and interpretation of intelligence, information and spill modelling to promote a common operating picture.

The JSCC will be administered by DJPR and the inaugural JSCC meeting will be convened by the State Controller Maritime Emergencies (SCME) once both Beach and DJPR formally assume the role of Control Agency in respective jurisdictions.

The JSCC will be jointly chaired by the SCME and the Beach CMT/EMT Leader, who will determine whom will sit in the committee for a coordinated response. As the relevant jurisdictional authority in Commonwealth waters, NOPSEMA may opt to participate in the JSCC as they see fit.

In a cross-jurisdictional marine pollution incident, DJPR and Beach shall each deploy an EMLO to corresponding IMTs for effective communication between DJPR and Beach. The role of the DJPR EMLO includes, but is not limited to:

- Represent DJPR and provide the primary contact for Beach, inter-agency and/or inter-State coordination
- Facilitate effective communications between DJPR's SCME and Incident Controller and the Beach CMT / EMT Leader
- Provide enhanced situational awareness to DJPR of the incident and the potential impact on State waters
- Facilitate the delivery of technical advice from DJPR to the Beach EMT Leader as required.

The Beach EMLO will work under the direction of the DJPR and will be responsible for supplying additional resources to the Control Agency as required. This would be via internal Beach resources, AMSA (NRT & NRST), and/or AMOSC contract.

5.8 Roster

A roster is maintained for CMT Leaders and for full EMTs as well as the SC IMT. The roster is promulgated each Friday morning for the next twelve weeks and is kept on the Beach Energy Intranet 'Umbrella' in the 'Emergency Management' site.

All CMT, EMT and SC IMT members will make themselves available when called. Primary members will advise their alternate when they will not be available to respond, and all rostered members are able to seek their counterpart as replacement and modify the roster to ensure 24/7 coverage.

Beach utilises the services of the NRC to be the conduit of information from the affected site to the on-call EMT Leader and EMT Leader to on call CMT Leader. The NRC will also activate the on-call teams, as directed.

6 Crisis and Emergency Management System (CEMs)

This section describes how to implement a response to an incident using the Beach Crisis and Emergency Management System (CEMS). Regardless of the size of the incident, the response process begins with incident detection, notification and activation of response personnel and other resources, and for Level 2 or Level 3 spills the establishment of the incident command, in the form of the EMT and Leader. The IMO3 EMT Leader is the 'Incident Commander' and as the response develops, the CEMs organisational structure and cyclical planning process are established.

For larger, more complex incidents (Level 2 or Level 3 spills), the EMT will expand in staffing (resourcing sought from within Beach or external SMEs) and the planning cycle becomes increasingly critical. All oil pollution response activities will include a written Incident Action Plan (IAP), which includes tactics and resource assignments to accomplish the response objectives established by the EMT Leader. The response is typically divided into operational periods, and the IAP is reviewed and revised during each operational period to reflect current objectives, strategies and response tactics to meet evolving incident conditions.

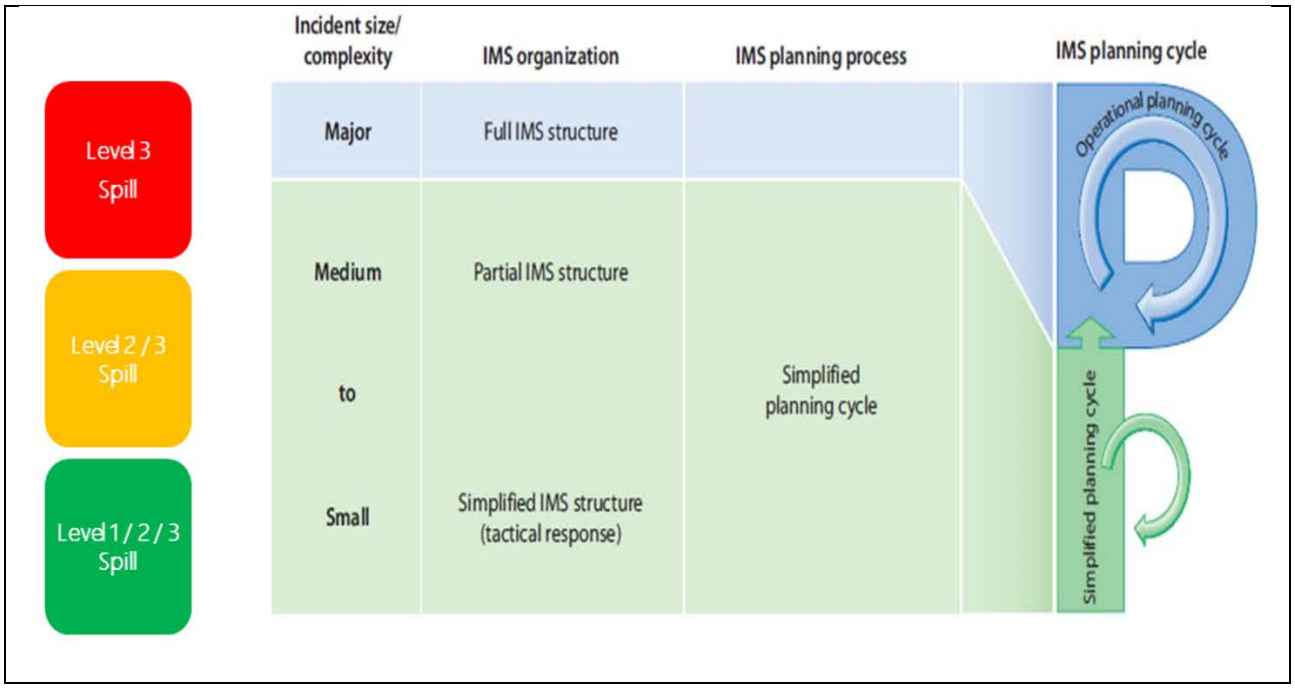


Figure 6.1. Application of the Beach Incident Management System for all events.

6.1 Team Meeting and Operational Planning Cycle

Emergency management is a 'team' orientated process: the EMT Leader, through the Deputy, will have reporting requirements to the CMT Leader and will need to receive updates from the site based ERT and/or the SC IMT Leader.

Once the team is activated and following an initial assessment of the specific circumstances of the oil spill emergency, the EMT Leader will lead and guide the EMT through a defined response process for emergency oil spill scenarios and responses, as outlined in Figure 6.2 and Table 6.1.

In order for this to occur with all participants receiving and giving information at the same briefing, the 'Team Process' has been adopted by Beach EMTs and the CMT. The team meeting and operational planning cycle is to be implemented until each of the strategy-specific termination criteria have been met. The structure of the EMT and frequency of the operational periods is relative to the scale and stage of the spill event.

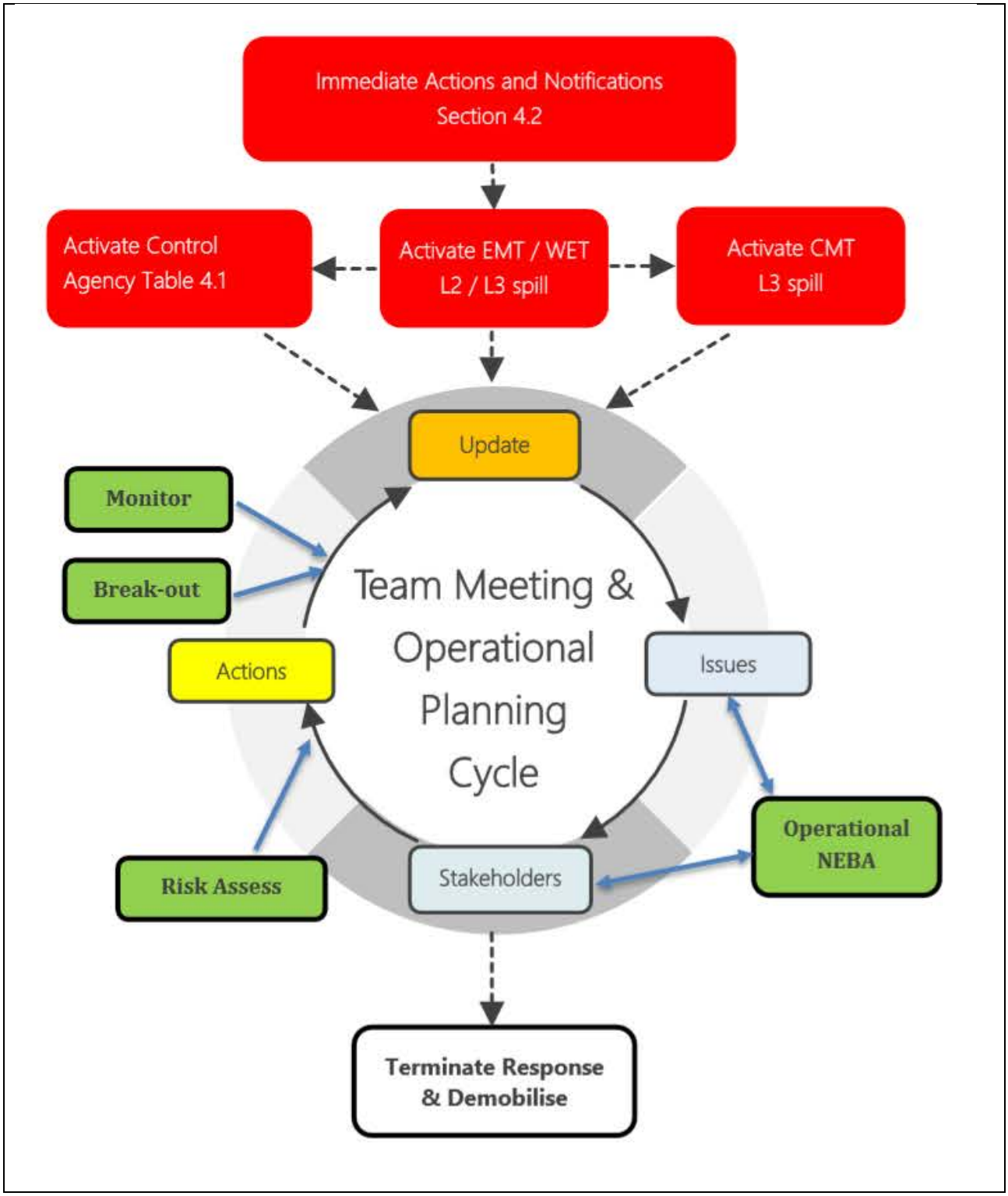


Figure 6.2. Team Meeting and Operational Planning Cycle

Table 6.1. Team Meeting and Operational Planning Cycle Components

Immediate Actions and Notifications	First Responders: Implement Immediate Action Plan and make notifications relevant to spill scenario as per Section 4.2: • Vessel spill (Level 1, 2 or 3): Table 4.2 • Loss of integrity – platform or pipeline (L2 / L3): Table 4.3 • LoWC (Level 2 or 3): Table 4.4 Provide EMT Leader with initial situation report (Appendix C. 2 SITREP).
Activate	• EMT Leader: Assess event against the initial site situation report from First Responders and Activate EMT Planning and team for any L2 or L3 spill. • EMT Leader: assessing event, clarify roles and tasks required, including communication protocols with CMT. • Notify SC IMT Leader for any LoWC event (if notification did not come from SC IMT). • Notify the CMT Leader upon activation and immediately for any Level 3 spill. • Notify the State Control Agency for any spill impacting or potentially impacting State waters. • Determine team composition and commence callout (through the NRC) (03 94112147). • Establish the Crisis Comms Network and reporting frequency with the ERT and CMT. • EMT Members and SC IMT Members: Attend EM Room and access Role Boxes. • Conduct initial assessment. • Commence objective setting with Planning and Control Agency (when relevant). • Clarify issues and/or concerns. • Develop initial plan of action based upon feasible response strategies (Section 10 below). • Prepare for team briefing.
Update	• Conduct team briefing – Establish 'rules' and chain of command (see ERP). • Gather current event information, utilising SITREP (Appendix C.2) /team's knowledge/damage assessments. • Assess current event status and severity/potential severity – informed by operational monitoring. • Establish response priorities. • Identify response areas and onshore priority planning areas. • List and agree outcomes and strategic objectives. • Assign roles and responsibilities. • Resolve issues and concerns. • Review team objectives – display prominently in the EM Room. • Establish operational periods based upon spill risk profile (6/12/24/48 hours).
Issues	• For each outcome and objective, identify and list response issues and potential limiters. • Commence scenario planning based on feasible response strategies. • Draft Operational Net Environmental Benefit Analysis (NEBA) (Section 8) in collaboration and to the agreement of relevant Control Agency. • Confirm protection priorities and key protection outcomes in collaboration and to the agreement of relevant Control Agency. • Team members should consider issues specific to their role.
Stakeholders	• Identify stakeholders – internal and external based upon assessment of potential hydrocarbon exposure. Use issues list as a prompt. • Consider prioritising stakeholder list. • EMLO to undertake stakeholder liaison. • Engage relevant stakeholders and validate draft Operational NEBA (where relevant to stakeholders). • Record stakeholder interactions and consider stakeholder objections or claims.

	• Form and approve key messaging ASAP.
Actions	• Undertake risk assessment considering, asset integrity, safety, health, quality and environment (considering outcomes of operational NEBA and relevant stakeholder objections or claims). • Develop and agree strategy specific IAPs with Control Agency (inclusive of Tactical Response Plans and establish monitoring, evaluation and surveillance program. • Identify and allocate tasks – including who is responsible and when they are due. • EMT members clearly briefed on strategy specific IAPs, roles and responsibilities defined, and tasks allocated. • Record and track progress and completion in EMQNet.
Break-out	• All team members as needed, can break out to execute actions in accordance with strategy specific IAPs. • Deputy to brief CMT (Leader or Operations, as decided). • All teams to monitor and record response effectiveness. • All members are to return at the agreed operational period interval, ready to update on actions executed.
Terminate Response & Demobilise	Strategy-specific termination criteria must be achieved prior to terminating response: • **Source Control** – controls successfully implemented to stop the source of the spill and no further risk from release from vessel, facility or infrastructure. • **Monitoring & Evaluation** –source control successfully implemented and released hydrocarbon no longer posing risk to receptors at actionable thresholds as agreed with State Control Agency. • **Protection and Deflection** – monitoring evaluation and surveillance indicates shoreline(s) no longer at risk from actionable thresholds of hydrocarbon and no net benefit gained by continuing protection and deflection as agreed with State Control Agency. • **Shoreline Clean-up** – shorelines affected by actionable thresholds of stranded oil cleaned until no net benefit gained by continuing clean-up operations as agreed with State Control Agency. N.B. shoreline monitoring continues following termination of clean-up operations as agreed with the State Control Agency. • **Oiled Wildlife** – no affected wildlife detected and affected individuals that have been (where possible) captured, triaged and rehabilitated as agreed with State Control Agency and/or DAWE.

7 Responsibilities and Accountabilities

For Level 1 spills, the site ERT has responsibility for oil spill response and implementation of this OPEP.

For Level 2 or 3 spills, the Beach EMT Leader has responsibility for oil spill response and implementation of this OPEP in parallel with the Beach EMP.

Individual role and responsibility checklists for the EMT can be found in Appendix B of the EMP.

In the event of a LoC, the EMT HSE Leader becomes the 2nd In Command (2IC) (see Appendix B. 2 of EMP).

Role-specific responsibilities for an offshore oil pollution emergency are detailed in the immediate actions and notifications (Section 3) of this OPEP.

For Level 3 spills, the CMT has responsibility for implementation of the Crisis Management Plan (CMP)

Level-based individual role and responsibility checklists for the CMT are available in Appendix B of the CMP.

8 Net Environmental Benefit Analysis

The NEBA process is used to compare the predicted positive and negative outcomes of various oil spill response options with respect to environmental sensitivities at risk from the spill and response activities.

The NEBA process recognises that certain clean-up options may cause a net negative environmental impact in comparison to the impact of leaving the spill to weather naturally. The key objective is to identify the response options that will result in minimal impacts and maximum recovery of the environment, considering the specific sensitivities of the resources that have been prioritised for protection. The NEBA will be undertaken by the Control Agency or under the direction of the EMT for spills in Commonwealth waters.

A NEBA may be either 'strategic' (pre-spill event) or 'operational' (post-spill event).

The following steps allow for an effective NEBA to be conducted:

Step 1

a. Identify potential spill impact area based on incident specifics, trajectory modelling and observations. Within the predicted impact area, identify the key characteristics of the habitats. This can be based on field observation, aerial photos and local knowledge.

Step 2

a. Identify resources (human, ecological, economic etc) at risk at each of the different habitats within the impact area. During the NEBA, specific consideration must be given to formally managed environment receptors and relevant formal management advice:

- South-east Commonwealth Marine Reserves Network Management Plan 2013-23 (Director of National Parks, 2013).
- Formal management arrangements (Conservation Advices/Recovery Plans) of species identified in the EMBA include:
  - National Recovery Plan for Threatened Albatrosses and Giant Petrels 2011- 2016.
  - National Recovery Plan for Gould's Petrel (*Pterodroma leucoptera leucoptera*).
  - Approved Conservation Advice for the Blue Petrel (*Halobaena caerulea*).
  - Approved Conservation Advice for *Pterodroma mollis* (Soft-plumaged Petrel).
  - Approved Conservation Advice for *Pachyptila tutur subantarctica* (Fairy Prion (southern)).
  - Approved Conservation Advice for *Sternula nereis nereis* (Fairy tern).
  - Approved Conservation Advice for *Calidris canutus* (Red knot).
  - Approved Conservation Advice for *Botaurus poiciloptilus* (Australasian Bittern).
  - National Recovery Plan for the Orange-bellied Parrot (*Neophema chrysogaster*).
  - Approved Conservation Advice for *Lathamus discolor* (Swift Parrot.)
  - Wildlife Conservation Plan for Migratory Shorebirds – 2015.
  - Approved Conservation Advice for *Calidris tenuirostris* (Great knot).
  - Approved Conservation Advice for *Charadrius leschenaultia* (Greater sand plover).
  - Approved Conservation Advice for *Charadrius mongolus* (Lesser sand plover).

- Approved Conservation Advice for *Numenius madagascariensis* (Eastern Curlew).
- Approved Conservation Advice for *Rostratula australis* (Australian painted snipe).
- Conservation Advice *Thinornis rubricollis rubricollis* hooded plover (eastern).
- Conservation Management Plan for the Blue Whale, 2015-2025.
- Approved Conservation Advice for *Balaenoptera borealis* (Sei Whale).
- Approved Conservation Advice for *Megaptera novaeangliae* (Humpback Whale.)
- Conservation Management Plan for the Southern Right Whale, 2011-2021.
- Approved Conservation Advice for *Balaenoptera physalus* (Fin Whale).
- Recovery Plan for Marine Turtles in Australia, 2017-2027.
- Recovery Plan for the White Shark (*Carcharodon carcharias*).
- Conservation Advice *Rhincodon typus* whale shark.
- Approved Conservation Advice for *Epinephelus daemelii* (black cod).
- Recovery Plan for the Grey Nurse Shark (*Carcharias taurus*).
- National Recovery Plan for the Australian Grayling (*Prototroctes maraena*).
- National Recovery Plan for the Dwarf Galaxias (*Galaxiella pusilla*).
- Approved Conservation Advice for Giant Kelp Marine Forests of South East Australia.
- Approved Conservation Advice for the Assemblages of species associated with open-coast salt-wedge estuaries of western and central Victoria ecological community.
- Conservation Advice for Subtropical and Temperate Coastal Saltmarsh.

- Response activities will not be conducted in a manner inconsistent with the formal management arrangements or objectives of the respective zones of the AMPs and the principles of the IUCN Area Categories applicable to the values of the AMPs.

Step 3

a. Assess the potential impact from the spill on each of the resources at risk based on severity of impact and predicted recovery time. This is assuming no response to the spill.

b. A precautionary approach should be adopted, assuming that the entire site will be covered by oil and that this will persist at the site for at least 24 hours. However, in certain situations the behaviour of the spill may be more accurately predicted, and this information can be used when assessing potential impacts. The second assumption that must be agreed is whether the percentage of a species or resource impacted relates to the local (site), regional or even global (in the case of endangered species) population. This does not necessarily need to be consistently applied to all resources at the site. For example, it may be considered that if a resource is very abundant regionally then it is not significant enough at a particular site to warrant a high level of concern even though it may be seriously impacted at that site.

Step 4

a. Review the site-specific advantages and disadvantages of the different response options available, using natural recovery as a baseline. The predicted effect, likely impact and recovery time of the various response options on each of the resources must be assessed.

b. In the case of a hydrocarbon spill from BassGas operations impacting Victorian State waters and/or lands, it is expected that the Control Agency (DJPR) would undertake an operational NEBA, with support from Beach as requested, in determining the most appropriate response actions in accordance with the NatPlan or the VicPlan as applicable. Under the NatPlan, Environmental Science Coordinators contribute advice on likely environmental outcomes of each response option to the spill planning team based on a NEBA approach.

c. As part of the response planning process, Beach has conducted a response option feasibility assessment (Table 9.1) and a strategic NEBA (Table 9.2). As part of the due diligence process, Beach shall also conduct an operational NEBA and would engage with the Control Agency regarding the results of that assessment and recommendations for response activities. Additionally, information from the NEBA may be used to help inform requirements for environmental monitoring relating to anticipated impacts from the spill and any response activities. Beach's operational NEBA assessment would be conducted by an environmental professional with experience in oil spill planning and response.

9 Response Areas and Strategies

To identify the response planning areas the following oil exposures were used adopted based on AMSA guidance:

- Offshore: A sea surface oil exposure of >10 g/m^2 (0.01 mm thick) – this represents the practical limit for surface response options. Below this thickness, oil containment, recovery and chemical dispersant application are ineffective.
- Onshore: A shoreline contact exposure of >100 g/m^2 (0.1 mm thick) – this represents the minimum thickness that does not inhibit the potential for recovery and is best remediated by natural coastal processes alone.

It is noted that NOPSEMA's Bulletin #1 'Oil spill modelling' (A652993) (NOPSEMA, 2019) refers to >50 g/m^2 as a level to inform response planning, and therefore the use of >10-50 g/m^2 (as the sea surface threshold used in the Beach OSTM) is considered conservative. These 'actionable areas' for hydrocarbon spill response have been defined based on the outcomes of the OSTM and are illustrated in Figure 3.1.

9.1 Response areas

Note there is no offshore response areas associated with the LoWC scenarios for the Yolla wells (i.e., there was no surface exposure above the >10-50 g/m^2 threshold predicted). Similarly, there is no onshore response area associated with the LoWC scenario.

Figure 3.1 illustrates the areas where, based on the results of the OSTM, an on-water or shoreline response could be undertaken to contain and recover oil, deflect oil or mount a shoreline clean-up operation.

9.2 Onshore priority planning areas

Within the onshore response areas, priority planning areas have been identified where the following two criteria are met:

- Predicted time to shoreline exposure is less than 7 days.
- Sensitive environmental receptors present in the intertidal/coastal zone:
  - National or international important wetlands.
  - Sheltered tidal flats.
  - Mangrove or saltmarsh habitat.
  - Known breeding/calving/nesting aggregation areas for protected (threatened or migratory) fauna.
  - Known breeding/haul-out areas for pinnipeds.
  - Threatened ecological communities.

Note, the requirement for time to exposure is based upon the time required to plan and implement a response in this area (i.e., it is estimated to take approximately 5 days to develop and ground-truth a tactical response plan (TRP) and 24-48 hours to mobilise equipment and personnel to location).

The OSTM indicates that the priority planning area for spill scenarios resulting in onshore contact with 'actionable oil' is confined to the area of coastline between San Remo and Cape Paterson (Figure 9.1). A description of this coastline is provided in Section 5.3.7 of the BassGas Offshore Operations EP, but essentially comprises the following (based on OSRA mapping):

- Beaches – dominated by sand, interspersed with occasional rocky outcrops and rocky cliffs;
- Intertidal areas – dominated by sand and interspersed with shore platform; and
- Subtidal areas – dominated by sand and rocky reef.

Several state marine and coastal parks and hooded plover habitat is known to occur along this section of shoreline. There is only one river mouth along this coastline, this being the Powlett River (southeast of Kilcunda).

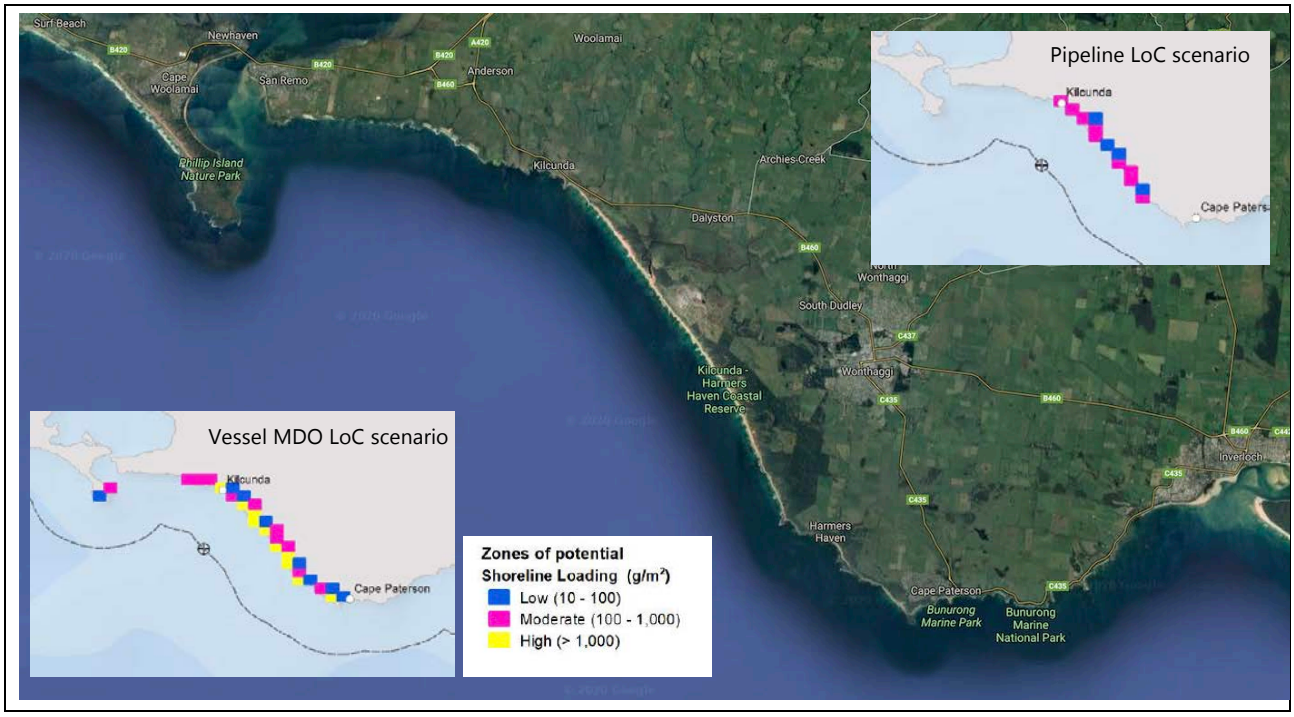


Figure 9.1. Area of shoreline most at risk from onshore loading from the MDO and pipeline rupture LoC scenarios

9.3 Response strategies

The response strategies determined to be the most likely to be implemented in the event of a Level 2 or 3 condensate or MDO release are presented in Table 9.1, while Table 9.2 presents the strategic NEBA for the three spill scenarios (vessel spill, pipeline rupture and well blowout).

Table 9.1. BassGas operations hydrocarbon spill response feasibility assessment

Response option	Feasibility and effectiveness analysis	Implement?
Condensate		
Source control	**Effective. Feasible.** This is the preferred manner to control a hydrocarbon release. The following plans will be enacted: • Pipeline – shut down of production from Yolla-A, LLGP or valve at the shore crossing. • Production wells – implementation of the RWP. A surface or subsea well cap is not a feasible response option for BassGas (as described in Section 3.9.2).	Yes
Monitor and Evaluate	**Effective. Feasible.** Condensate evaporates and disperses rapidly. Monitoring is a fundamental part of any hydrocarbon spill response to gain situational awareness of the nature and scale of the spill and the direction of movement. This includes monitoring along the shoreline by foot.	Yes
Assisted Natural Dispersion	**Effective. Feasible.** The use of motorised vessels to break up slicks using propeller wash creates an inherent safety risk because of the presence of an ignition source (condensate is highly volatile). Mechanical dispersion could be undertaken in slightly weathered condensate once the volatiles have flashed off to disperse the condensate into the water column to create smaller droplets and enhance biodegradation (only if monitoring indicates the slick is moving to sensitive shorelines).	Possible, but unlikely
Chemical Dispersants	**Low effectiveness. Not feasible.** Not recommended for Group I oils such as condensate due to its very low viscosity (i.e., easy spreading) and high volatility (i.e., it evaporates rapidly). Dispersant use will have a net negative effect on the environment. Dispersants push the hydrocarbons into the water column, creating longer lasting impacts in the water column than allowing the condensate to weather naturally from the sea surface.	No
Offshore Containment and Recovery	**Low effectiveness. Not feasible.** The high volatility of condensate creates inherent safety risks when attempting to contain and recover it mechanically. This response technique is dependent on adequate hydrocarbon thickness (generally >10 g/m^2), calm seas and significant areas of unbroken surface slicks. There is no recoverable condensate (>10 g/m^2) at the sea surface for a LoWC scenario, and a very limited area under the pipeline rupture scenario. The condensate would weather in less time than it would take to deploy response equipment. Due to the low viscosity of gas condensate, the ability to contain and recover it is extremely limited. Condensate evaporates faster than the collection rate of a thin surface film present. It spreads in less time than is required to deploy this equipment.	No

Response option	Feasibility and effectiveness analysis	Implement?
Protection and Deflection	**Low effectiveness. Potentially feasible.** The high volatility of condensate creates inherent safety risks when attempting to use protection and deflection booms. Oceanic environments such as Bass Strait often do not present suitable conditions for the use of booming material (i.e., swell and waves deem this strategy ineffective). The OSTM for a LoWC indicates no shoreline contact and therefore no shorelines to protect. The OSTM for a LoC from the pipeline indicates that there would be a maximum shoreline loading of 21 m^3 of condensate. Prevailing south-westerly winds would push deflected condensate to other sandy beaches along the Bass coastline (albeit more weathered [and thus less toxic] by the time it reached those shorelines), including to populated areas such as Inverloch.	Possible, but unlikely
Shoreline Clean-up	**Low effectiveness. Low feasibility.** Condensate is highly volatile and will evaporate naturally even after making shoreline contact. Condensate also quickly infiltrates sand, where it is then remobilised by wave action (reworking) until it has naturally degraded. This quick infiltration through sediments makes it very difficult to recover without also recovering vast amounts of shoreline sediments. The OSTM for a LoWC indicates no shoreline contact and therefore no shorelines to protect. The resources available to Beach to implement a shoreline clean-up strategy are available (through AMOSC). Based up a clean-up rate of 1 m^3 per day per person, a single clean-up team (10 persons) could clean 10 m^3/day. Based on a waste generation (bulking) factor of 10:1, waste clean-up and recovery could take up to 1 month for a team of 10 people. This assumes that all 21 m^3 of stranded hydrocarbon is both accessible and retrievable (which it would not be). Given the volume of clean sand likely to be retrieved in the clean-up process, this response may create more environmental damage than the spill itself. The resources available to Beach to implement a shoreline clean-up strategy are available (through AMOSC, especially core group responders). However, environmental impacts to the shoreline are likely to be higher when implementing this response technique compared to the natural degradation.	Possible, but unlikely
Oiled Wildlife Response (OWR)	**Low effectiveness. Feasible.** Because gas condensate evaporates and disperses rapidly, most fauna are unlikely to be exposed to sub-lethal or lethal hydrocarbon concentrations that warrant wildlife capture and treatment, especially at the sea surface. The limited length of shoreline potentially affected by a pipeline LoC and the close proximity of the Phillip Island wildlife rescue centre to the affected shoreline makes an OWR response feasible. However, more wildlife harm could occur (during the handling and treatment process) using this response technique compared to allowing for natural cleaning (especially given the light nature of the condensate). Hazing may be considered to disperse animals away from a slick (such as seabirds, shorebird, seals and dolphins) or any shoreline areas where condensate has not infiltrated beach sediments. Only DELWP officers (or those authorised by DELWP) are permitted to handle and treat oiled wildlife under the Victorian Wildlife Response Plan for Marine Pollution Emergencies (meaning AMOSC responders are unlikely to be able to do so, despite the available of OWR kits). This may limit the effectiveness and feasibility of this response in terms of the number of responders and therefore the number of affected fauna that could be treated.	Possible, but unlikely
MDO		

Response option	Feasibility and effectiveness analysis	Implement?
Source control	**Effective. Feasible.** The vessel-specific SMPEP will be implemented to minimise the volume of MDO released. This typically involves transferring MDO from the ruptured tank to another tank.	Yes
Monitor and Evaluate	As per condensate. **Effective. Feasible.**	Yes
Assisted Natural Dispersion	As per condensate. **Effective. Feasible.**	Possible, but unlikely
Chemical Dispersants	**Not effectiveness. Not feasible.** Although the use of dispersants is 'conditional' for Group II oil, the potential spill volume and the natural tendency of spreading into very thin films is evidence that dispersant application will be an ineffective response. Dispersant droplets will penetrate through the thin oil layer and cause 'herding' of the oil, which creates areas of clear water and could be mistaken for successful dispersion. Dispersants push the hydrocarbons into the water column, creating longer lasting impacts in the water column than allowing the MDO to weather naturally from the sea surface.	No
Offshore Containment and Recovery	**Low effectiveness. Not feasible.** This response technique is dependent on adequate hydrocarbon thickness (generally >10 g/m^2), calm seas and significant areas of unbroken surface slicks. There is a small area of recoverable MDO (>10 g/m^2) at the sea surface. However, this is likely to weather in less time than it would take to deploy response equipment. This method creates significant waste volumes, requires significant personnel resources and calm water conditions and generally recovers 10-15% of total spill residues.	No
Protection and Deflection	**Low effectiveness. Potentially feasible.** The OSTM for an MDO spill close to shore indicate that there could be a maximum shoreline loading of 172 m^3 of MDO. Because of the scenario chosen, the MDO is likely to reach the shoreline and percolate through shoreline sediments before response equipment can be deployed. Oceanic environments such as Bass Strait often do not present suitable conditions (i.e., swell and waves deem this strategy ineffective) for the efficient use of booming material (such as absorbent, zoom boom and beach guardian). Prevailing south-westerly winds would push deflected MDO to other sandy beaches along the Bass coastline (albeit more weathered [and thus less toxic] by the time it reached those shorelines), including to populated areas such as Inverloch. There are no less sensitive areas (e.g., rocky shorelines) that the MDO could be deflected to. The resources available to Beach to implement a protection and deflection strategy are available (through AMOSC). However, this response may create more environmental damage than the spill itself.	Possible, but unlikely
Shoreline Clean-up	**Low effectiveness. Low feasibility.** The OSTM for an MDO release close to the shoreline indicates a maximum shoreline loading of 172 m^3.	Possible, but unlikely

Response option	Feasibility and effectiveness analysis	Implement?
	The resources available to Beach to implement a shoreline clean-up strategy are available (through AMOSC). Based up a clean-up rate of 1 m^3 per day per person, a single clean-up team (10 persons) could clean 10 m^3/day. Based on a waste generation (bulking) factor of 10:1, waste clean-up and recovery could take up to 170 days (6 months) for a team of 10 people. This assumes that all stranded MDO is both accessible and retrievable (which it would not be). Given the volume of clean sand likely to be retrieved in the clean-up process, this response may create more environmental damage than the spill itself.	
OWR	**Effective. Feasible.** There is potential for marine fauna to be oiled in areas of moderate to high sea surface MDO exposure or along the coastline (with up to 11 km of shoreline affected). The close proximity of the Phillip Island wildlife rescue centre to the affected shoreline makes an OWR response feasible. However, more wildlife harm could occur (during the handling and treatment process) using this response technique compared to allowing for natural cleaning. Hazing may be considered to disperse animals away from a slick (such as seabirds, shorebird, seals and dolphins) or any shoreline areas where MDO has not infiltrated beach sediments. Only DELWP officers (or those authorised by DELWP) are permitted to handle and treat oiled wildlife under the Victorian Wildlife Response Plan for Marine Pollution Emergencies (meaning AMOSC responders may not be able to do so, despite the availability of OWR kits). This may limit the effectiveness and feasibility of this response in terms of the number of responders and therefore the number of affected fauna that could be treated.	Possible, but unlikely

Table 9.2. BassGas operations hydrocarbon spill response strategic NEBA

Scenario	Hydrocarbon	Response	Strategic NEBA	Key Operational Considerations
Loss of well control	Gas condensate	Source control	**Yes.** Source control always considered to provide net environmental benefit by virtue of reducing the overall spill volume.	Other marine users and coastal communities. EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans. Wildlife (Marine Mammals) Regulations 2009 (Vic). Relevant Conservation Advices, Conservation Plans, Conservation Management Plans and Recovery Plans for nearshore and shoreline MNES (refer Section 8). Include management for slow to recover habitats (e.g., mangroves). Consider breeding sites that are vulnerable to oil pollution (e.g., shorebird nesting sites). Implement measures to reduce adverse impacts of habitat degradation and/or modification.
		Monitor and evaluate	**Yes.** Indirect benefit by informing other response strategies. Aerial and vessel surveillance to be mobilised to determine the extent and direction of Level 2 and Level 3 spill.	
		Assisted natural dispersion	**Possible.** Potential environmental net negative depending on location of spill in relation to marine and coastal ecology and habitats. Operational NEBA required prior to undertaking response option.	
		Protection and deflection	**No.** No shoreline contact predicted in OSTM.	

Scenario	Hydrocarbon	Response	Strategic NEBA	Key Operational Considerations
			Site-specific operational NEBA required prior to undertaking response option.	
		Shoreline clean-up	**No.** No shoreline contact predicted in OSTM. Site-specific operational NEBA required prior to undertaking response option.	
		OWR	**Possible.** To occur at the direction of the State Control Agency for impacted species. Site-specific operational NEBA required prior to undertaking response option.	
Pipeline rupture	Gas condensate	Source control	**Yes.** Source control always considered to provide net environmental benefit by virtue of reducing the overall spill volume.	Other marine users and coastal communities. EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans. Wildlife (Marine Mammals) Regulations 2009 (Vic). Relevant Conservation Advices, Conservation Plans, Conservation Management Plans and Recovery Plans for nearshore and shoreline MNES (refer Section 8). Include management for slow to recover habitats (e.g., mangroves). Consider breeding sites that are vulnerable to oil pollution (e.g., shorebird nesting sites). Implement measures to reduce adverse impacts of habitat degradation and/or modification.
		Monitor and evaluate	**Yes.** Indirect benefit by informing other response strategies. Aerial and vessel surveillance to be mobilised to determine the extent and direction of Level 2 and Level 3 spill.	
		Assisted natural dispersion	**Possible.** Potential environmental net negative depending on location of spill in relation to marine and coastal ecology and habitats (the further from shore, the more likely this response will be of benefit). Site-specific operational NEBA required prior to undertaking response option.	
		Protection and deflection	**Possible.** Potential net environmental benefit to coastal habitats, coastal ecological receptors and socio-economic receptors (the closer to shore, the more likely this response will be of benefit). Site-specific operational NEBA required prior to undertaking response option.	
		Shoreline clean-up	**Possible.**	

Scenario	Hydrocarbon	Response	Strategic NEBA	Key Operational Considerations
			Potential net environmental benefit to sandy beaches, coastal ecological receptors and socio-economic receptors (the closer to shore, the more likely this response will be of benefit). Site-specific operational NEBA required prior to undertaking response option.	
		OWR	**Possible.** To occur at the direction of the State Control Agency for impacted species (the closer to shore, the more likely this response will be of benefit). Site-specific operational NEBA required prior to undertaking response option.	
Vessel spill	MDO	Source control	**Yes.** Source control always considered to provide net environmental benefit by virtue of reducing the overall spill volume.	Other marine users and coastal communities. EPBC Regulations 2000 – Part 8 Division 8.1 interacting with cetaceans Wildlife (Marine Mammals) Regulations 2009 (Vic) Relevant Conservation Advices, Conservation Plans, Conservation Management Plans and Recovery Plans for nearshore and shoreline MNES (refer Section 8). Include management for slow to recover habitats (e.g., mangroves). Consider breeding sites that are vulnerable to oil pollution (e.g., shorebird nesting sites). Implement measures to reduce adverse impacts of habitat degradation and/or modification.
		Monitor and evaluate	**Yes.** Indirect benefit by informing other response strategies. Aerial and vessel surveillance to be mobilised to determine the extent and direction of Level 2 and Level 3 spill.	
		Assisted natural dispersion	**Possible.** Potential environmental net negative depending on location of spill in relation to marine and coastal ecology and habitats (the further from shore, the more likely this response will be of benefit). Site-specific operational NEBA required prior to undertaking response option.	
		Protection and deflection	**Possible.** Potential net environmental benefit to coastal habitats, coastal ecological receptors and socio-economic receptors (the closer to shore, the more likely this response will be of benefit). Site-specific operational NEBA required prior to undertaking response option.	
		Shoreline clean-up	**Possible.** Potential net environmental benefit to sandy beaches, coastal ecological receptors and socio-economic receptors (the closer to shore, the more likely this response will be of benefit).	

Scenario	Hydrocarbon	Response	Strategic NEBA	Key Operational Considerations
			Site-specific operational NEBA required prior to undertaking response option.	
		OWR	**Possible.** To occur at the direction of the State Control Agency for impacted species. Site-specific operational NEBA required prior to undertaking response option.	

Table 9.1 indicates that only the following responses may be used to respond to a hydrocarbon spill:

- Source control;
- Monitor and evaluate;
- Assisted natural dispersion (possible, but unlikely – pending operational NEBA);
- Protection and deflection (possible, but unlikely – pending operational NEBA);
- Shoreline clean-up (possible, but unlikely – pending operational NEBA); and
- OWR (possible, but unlikely – pending operational NEBA).

The impact assessment for these options is provided in Sections 7.18 and 7.19 of the BassGas Offshore Operations EP. The strategies are discussed herein.

9.3.1 Source Control

Source control is the primary and most effective form of spill response. In the event of an offshore hydrocarbon spill, the feasibility of controlling the spill from the source should always be considered, giving due consideration to logistical constraints and safety implications.

Source control equipment and resources available to Beach in the event of a LoWC are detailed in Appendix B. 1.

Vessel

For a vessel spill at sea, the Vessel Master will implement the SMPEP/SOPEP (equivalent to class).

Pipeline or Platform

System pressures are monitored via the distributed control system (DCS) onshore, and the platform and pipeline can be shut down via the DCS or emergency shut down (ESD) can be implemented from the platform.

Well Control

Restoring well control is the primary objective under a LoWC scenario. The primary method of well control is via a dynamic well kill by intersecting the well bore below the release location via a relief well and circulating kill weight drilling fluid into the well bore, thus controlling the flow of hydrocarbons from the reservoir. A RWP is in place to provide guidance for drilling a relief well at Yolla.

Capping stack systems have not proven to be effective in water depths less than 100 m due to the hazards relating to the deployment of a cap on a free flowing well, along with the fact that the presence of the Yolla-A platform would prevent ready access to the wells at the seabed.

9.3.2 Monitoring and Evaluation

Understanding the behaviour and trajectory of hydrocarbon slicks is required for Level 2 or 3 spill to predict the potential for environmental harm from the spill based on real-time weather and sea state conditions, spill volume and flow rate. There are a number of methods that can be used to monitor and evaluate hydrocarbon spills including direct observation (surveillance by air, vessel or tracking buoys), manual calculations, or computer modelling. Each of these methods, including the triggers for their use, is discussed in the following sections.

OSTM

Manual calculations for estimation of spill trajectory will be used for an initial calculation in parallel with OSTM to provide an accurate spill trajectory for the weather conditions and type/volume of hydrocarbon spill.

For a Level 2 or 3 spill, OSTM will be conducted based on real-time spill and metocean data and this information will be used to refine the spill response planning and execution. This will be requested through AMOSC, who in turn will commission RPS to conduct the OSTM.

Aerial- or vessel-based surveillance

Estimating hydrocarbon volumes can be done using the Bonn Agreement Oil Appearance Code (BAOAC), provided in **Appendix D**.

Aircraft provide a better platform than vessels for surveillance, and Beach will utilise this option in the event of a Level 2 or 3 spill to provide information on the location, extent, trajectory and spill volume estimate.

Fixed-wing aviation support available to Beach in the event of a Level 2 or 3 spill is detailed in **Appendix B. 3**. Trained oil spill observers will be engaged from AMOSC's Core Group to undertake the observations.

Aerial observations will be discontinued (with only shoreline surveillance remaining) once no areas of metallic sheen or true oil colour are observed, as this indicates that the slick thickness is <5 microns and therefore poses little risk of environmental harm and is not amenable to any on-water or shoreline clean-up techniques.

Satellite Tracking Buoys

These units can be used to track the movement and extent of a spill. Beach will obtain these units from AMOSC if necessary. They can be used in parallel with aerial surveillance to track the leading edge of a slick.

9.3.3 Protection and Deflection

Deflection equipment such as booms can be deployed to deflect slicks from encroaching on environmentally sensitive areas. Absorbent type booms are a suitable secondary protection measures at environmental sensitive sites. The feasibility and effectiveness of these measures is largely dependent on calm sea conditions allowing for the deployment of booms and this response option is only warranted where shoreline resources or offshore infrastructure are at risk.

The only likely priority area for deflection booming is the Powlett River (southeast of Kilcunda), the mouth of which partially comprises rocky platform (Photo 9.1).

All protection and deflection operations within State waters shall be under the direction of the State Control Agency. Beach will support protection and deflection operations as directed by the State Control Agency.

Figure 9.1. Powlett River mouth

9.3.4 Shoreline Clean-Up

Shoreline clean-up strategies must be developed in consideration of the shoreline character, resources at risk, and nature and degree of oiling. In general, other strategies are considered prior to shoreline clean-up due to the immediate environmental impact, heavy resource requirement, health and safety concerns (i.e., manual handling, heat stress, fatigue, etc), logistical complexities and waste management requirements.

Shoreline clean-up of MDO or condensate is not generally feasible or beneficial in the high energy environments typical of the Victorian open coast. Condensate and MDO would be highly weathered before making landfall and is thus expected to have minimal environmental impacts.

The coastline of the Bass Basin is dominated by sandy beaches (Photo 9.2), intertidal rock platforms and sheer rocky cliffs that are generally subject to high energy swell and surf. This facilitates rapid natural weathering. Additionally, most of the beaches between San Remo and Cape Paterson are not accessible by vehicles, meaning that the creation of new access tracks or damage to dune systems from foot access is likely. This in itself is likely to create more environmental harm than the weathered hydrocarbons.

In the event shoreline impact, DJPR is be the State Control Agency for the response within State waters or lands. Beach would support the response option as directed.

Figure 9.1. Kilcunda Beach, a sandy beach typical of the coastline between Kilcunda and Cape Paterson

9.3.5 Oiled Wildlife Response

Victorian State waters

DELWP is the agency responsible for responding to wildlife affected by a marine pollution emergency in Victorian State waters. If an incident which affects or could potentially affect wildlife occurs in Commonwealth waters close to Victorian State waters, AMSA will request support from DELWP to assess and lead a response if required. DELWP's response to oiled wildlife is undertaken in accordance with the Wildlife Response Plan for Marine Pollution Emergencies.

Beach will provide support for the response through provision of resources as requested by DELWP utilising existing contracts such as AMOSC.

Both DELWP and AMSA have local and regional oiled wildlife response capability that may be activated under the direction of DELWP.

Personnel may also be deployed under the direction of DELWP to undertake OWR activities in the Victorian jurisdiction.

DELWP responds to oiled wildlife notifications and has identified the following steps must be taken when reporting wildlife affected by an oil spill:

1. Notify the DJPR State Duty Officer on 0409 858 715 and the DELWP State Agency Commander on 1300 13 4444 immediately.
2. Notify AMSA (02 6230 6811) if the oil spill occurs in Commonwealth waters and wildlife is affected.
3. Determine the exact location of the animal/s and provide accurate directions. Maintain observation until DELWP can deploy staff to the site.
4. Take response actions only as advised by DELWP or AMSA:
    - Determine the exact location of the animal for accurate directions for appropriately trained wildlife response personnel. Maintain observation and keep people, dogs and wildlife scavengers away until trained rescuers have arrived.
    - Avoid handling or treating injured wildlife as this may cause further stress and poses a safety risk to untrained handlers.

Tasmanian State Waters

The OSTM indicates that actionable oil is not predicted to make contact with Tasmanian state waters or shorelines. Nonetheless, the Tasmanian Oiled Wildlife Response Plan (WildPlan) is administered by the Resource Management and Conservation Division of the DPIPWE and outlines priorities and procedures for the rescue and rehabilitation of oiled wildlife.

Wildlife rescue kits are held at the Hobart and Launceston DPIPWE offices.

To activate a Tasmanian OWR, contact the Natural and Cultural Heritage Division (OWR) on (03) 6165 4396.

Commonwealth Waters

Beach will activate AMOSC and AMSA in the event of a Level 2 or 3 spill. Part of this activation will be the standby of OWR teams. AMOSC and AMSA both have on call personnel and equipment who can be activated if necessary. The OSTM (undertaken by RPS APASA via AMOSC contract) will determine the direction of the spill and the potential interaction of any wildlife. A helicopter would be mobilised via Bristows and will be used to observe any slick. If it is safe to do so, vessels will be mobilised to the slick area.

To activate, contact:

AMSA: 1800 641 792 Email: mdo@amsa.gov.au

AMOSC: 0438 379 328

To notify the DAWE of oiled or potentially oiled wildlife in Commonwealth waters, contact:

Switchboard: (02) 6274 1111

Director of National Parks: (02) 6274 2220.

9.4 Waste Management

Only a near-shore MDO spill from a vessel collision or pipeline rupture are predicted to result in 'actionable' thresholds of shoreline hydrocarbon exposure. Responses to these scenarios, along with OWR, will result in waste generation.

During clean-up operations, the type and amount of waste generated will depend on the location and recovery method (Table 8.2).

Table 9.2. Waste volume calculation

Location	Hydrocarbon : Waste ratio	Comments
Offshore recovery	1:3	Inefficiency of recovery systems causing higher levels of water to oil ratio intake
Shoreline clean-up	1:10-20	Significant increase in waste volume due to collection of surrounding environment

In the event of a clean-up operation, temporary waste handling bases will be set up at designated staging areas. Staging locations will be determined in consultation with DJPR (EMB), AMOSC, DELWP and the waste management contractor.

Table 8.3 summarises packing, storing and disposal of different types of waste that Beach's EPA licensed waste contractor can support.

The transport of waste material may be required at sea, from sea-to-land and from land-to-land. Liquid transport trucks, flatbed trucks, dump trucks and gully suckers can be utilised to transport waste material through Beach's licensed waste contractor.

Table 9.3. Waste category, storage, disposal and treatment options

Waste category	Packing & temporary onsite storage	Disposal & treatment[5]
Oiled Liquids	Oil field tanks (fast tanks) IBC Tank trucks Livestock tanks Sealed oil drums Lined skips/pits[1]	Recovery and recycling Bioremediation/land farming[3] Incineration/land filling[2]
Oiled man-made materials	Lined skips Lined earthen pits or berms[1] Industrial waste bags Plastic trash bags Sealed-top drums	Recovery and recycling Incineration/land filling[2]
Oiled naturally occurring organic materials	Lined skips Lined earthen pits or berms[1] Industrial waste bags Plastic trash bags Sealed-Top drums	Recovery and recycling Bioremediation/land farming[3] Incineration/land filling[2]
Oiled dead wildlife/birds[4]	Industrial waste bags Plastic trash bags	Incineration/land filling[2]

2. Lined pits for the storage of oiled wastes cannot be constructed within a National Park due to the sensitivity of the location. The potential impacts on subterranean fauna and aquifers must be considered at all other locations.
3. Incineration and land filling will only occur at appropriately licensed waste disposal facilities
4. Suitable areas to be identified in consultation with local and state authorities.
5. Wildlife and birds are collected by those trained in wildlife recovery. All dead wildlife and birds must be segregated. Some wildlife carcasses may need to be retained for scientific purposes. DELWP (and/or DPIPWE) will provide direction if this is required.
6. Sorted by most preferred to least preferred method.

9.5 Performance Standards

Environmental performance outcomes and environmental performance standards for hydrocarbon spill response strategies are defined in Sections 7.18 and 7.19 of the BassGas Offshore Operations EP.

10 Environmental Monitoring

Beach's Offshore Victoria OSMP addendum (BassGas Operations) provides a framework for Beach's environmental monitoring response to Level 2 and Level 3 offshore hydrocarbon spills from BassGas activities.

Oil spill monitoring is divided into two types:

- Operational monitoring (also known as Type I or response phase monitoring) – collects information about the spill and associated response activities to aid planning and decision making during the response or clean-up operations. Operational monitoring typically finishes when the spill response is terminated.

- Scientific monitoring (also known as Type II or recovery phase monitoring) – focuses on non-response objectives and evaluating environmental impact and recovery from the spill and response activities. Scientific monitoring may continue for extended periods after a spill response is terminated.

Operational monitoring studies may be implemented in conjunction with relevant response strategies as described in this OPEP (e.g., monitoring and evaluation, shoreline clean-up and OWR).

11 On-Going Response Preparedness and Exercises

11.1 OPEP Review

This OPEP will be reviewed and updated as follows:

- Annually;
- When major changes that may affect the oil spill/pollution response coordination or capabilities have occurred;
- Routine testing of the plan if gaps are identified within the plan;
- After an actual emergency; and/or
- If Beach's spill risk profile changes significantly due to additional activities or operations.

The review of the plan will consider external influences including:

- Changes to relevant legislation;
- Advice from the government relating to the conservation of listed species;
- Updates to State or Australian Marine Park management plans;
- Changes in fisheries management or other socio-economic features of the environment;
- New knowledge about the receiving environment in bioregional profiles or published scientific literature that may contribute to environmental baselines or data collection methods; and
- Change in State or Commonwealth oil spill response arrangements and resources.

11.2 Testing Arrangements

In accordance with Regulation 14(8A)(8C) of the OPGGS(E) and Regulation 17(3) of the OPGGS Regulations, the response arrangements within this OPEP will be tested:

- When they are introduced;
- When they are significantly amended;
- Not later than 12 months after the most recent test;
- If a new location for the activity is added to the EP after the response arrangements have been tested, and before the next test is conducted – testing the response arrangement in relation to the new location as soon as practicable after it is added to the plan; and
- If a facility becomes operational after the response arrangements have been tested and before the next test is conducted – testing the response arrangements in relation to the facility when it becomes operational.

The effectiveness of response arrangements will be measured by the performance standards detailed in Table 11.1 for each exercise type. Exercises will be documented, and corrective actions/recommendations tracked to closure.

A log shall be maintained during all oil pollution response exercises including a record of the effectiveness and timeliness of the response against the objectives of the exercise.

Where objectives are not met, or potential improvements have been identified during an exercise, these learnings shall be recorded and retained for inclusion into the subsequent revision of this OPEP.

Where significant deficiencies are identified in the effectiveness or timeliness of response arrangements as identified within this OPEP, this OPEP shall be updated within one month of the exercise to address the identified issues.

As required by the Environment Regulation 14(8A), the testing must relate to the nature and scale of the risk of oil pollution relevant to the activity.

Testing arrangements appropriate to the nature and scale of each activity covered by this OPEP are included in Table 10.1.

In accordance with Regulation 14(8C)(d)(e), these arrangements are also designed to provide for:

- The various locations of Beach facilities and activities in the Otway Basin.
- Response arrangements in relation to each of the facilities and activities.

Not all spill preparedness and response testing environmental performance outcomes will be tested simultaneously. The frequency of testing will relate to the potential spill level, spill risk and complexity of response.

Table 11.1. Spill Preparedness and Response Testing Environment Performance Outcome, Standards and Measurement Criteria

Environmental Performance Outcome	Environmental Performance Standard	Testing Timing / Frequency	Responsible Person	Participants	Measurement Criteria
Vessel Operations (Level 1 or 2 spill)					
Response systems functioning	Emergency communications between shore base, platform and offshore vessels shall be tested when the vessel is new to field.	Prior to arrival in field	Beach Contract Owner	LLGP Platform Vessel(s)	Exercise records confirm effective communications
Procedures in place and appropriate	Beach shall validate that each vessel within field has a SOPEP/SMPEP.	Prior to arrival in field	Beach Contract Owner	Vessel(s)	Vessel inspection/audit records confirm SOPEP/ SMPEP is in place
	Beach EMT shall test the effectiveness of OPEP & OSMP in guiding spill response and remediation based upon: • Notification timing and completeness; • Timeliness of response according to predicted response timing; • Availability of response personnel; and • Training and competency of response personnel.	Annually	Senior CES Advisor	EMT on call roster AMOSC Monitoring Provider	Exercise records confirm OPEP/OSMP effective
	Beach shall test the effectiveness of the ERP in guiding EMT to fulfil roles and responsibilities.	Annually	Senior CES Advisor	EMT	Exercise records conform all EMT able to fulfil allocated roles & responsibilities
Contractual arrangements in place to obtain equipment & people	Beach shall validate contractual arrangements with external service providers the capability of each service provider to respond according to scope.	Annually	Senior CES Advisor	Contract Owner(s) Service Providers	All required contracts in place
Equipment available in a timely manner	Beach shall validate equipment stock levels and deployment times from AMOSC (desktop) based upon those presented within this OPEP.	Annually	Senior CES Advisor	Contract Owner AMOSC	Written confirmation of AMOSC capability
Appropriately trained people available	Beach shall validate the capability of environmental monitoring providers to ensure they continue to meet Beach requirements based upon company spill risk profile and potential monitoring scope of work (desktop)	Upon contract renewal	Senior CES Advisor	Contract owner(s) Monitoring Providers	Written confirmation of Environmental Consultant capability to implement OSMP.

Environmental Performance Outcome	Environmental Performance Standard	Testing Timing / Frequency	Responsible Person	Participants	Measurement Criteria
	Internal and external training requirements for EMT validated (desktop)	Annually	Senior CES Advisor	Learning & Development	Training records in place and meet capability requirements
Pipeline and Yolla-A Operations (Level 1 or 2 spill) - as above, plus					
Response systems functioning	Emergency communications shall be tested between ERT and EMT.	Annually	Senior CES Advisor	ERT EMT	Exercise records confirm effective communications
	Emergency notifications between EMT and Regulator(s) tested (including regulatory timeframes)	Annually	Senior CES Advisor	EMLO EMT Regulators	Exercise records confirm effective communications and notification timeframes met
Contractual arrangements in place to obtain equipment & people	Beach shall validate contractual arrangements with external service providers the capability of each service provider to respond according to scope.	Annually	Senior CES Advisor	Contract Owner(s) Service Providers	All required contracts in place
Pipeline and Yolla-A Operations (Level 3) - as above, plus					
Response systems functioning	Emergency communications between the platform and EMT tested	6-monthly	Senior CES Advisor	EMT	Exercise records confirm effective communications
	Emergency notifications between EMT and Regulator(s) tested (including regulatory timeframes)	Annually	Senior CES Advisor	EMLO EMT / SC IMT Regulators	Exercise records confirm effective communications and notification timeframes met
	Communication systems and methods between CMT / EMT Leader / EMT members tested	6-monthly	Senior CES Advisor	CMT / EMT	Exercise records confirm effective communications
	OSTM arrangements tested	Annually	Senior CES Advisor	AMOSC OSTM Service Provider	Exercise records confirm ability to initiate OSTM
Procedures in place and appropriate	Beach shall test readiness or arrangements to implement the RWP	Annually	Senior CES Advisor	SC IMT Well Control Specialists APPEA (if required)	Exercise records confirm relief well plan in place & tested

Environmental Performance Outcome	Environmental Performance Standard	Testing Timing / Frequency	Responsible Person	Participants	Measurement Criteria
	Beach shall test the effectiveness of RWP guiding SC IMT to fulfil roles and responsibilities	Annually	Senior CES Advisor	SC IMT	Exercise records confirm all EMT able to fulfil allocated roles & responsibilities
Equipment available in a timely manner to respond to a Level 3 spill	Beach shall test logistics pathways for mobilisation & deployment of Level 3 equipment, including support vessels and suitable drill rigs validated (desktop)	Annually	Senior CES Advisor	Rig operators / Rig Broker SC IMT Other Operator(s) under APPEA MoU	Exercise records confirm logistics pathways open and likely to facilitate deployment within anticipated timeframes.
Appropriately trained people available to respond to a Level 3 spill	Validation of Well Control Specialist's capability continues to meet Beach requirements based upon company spill risk profile (desktop)	Annually	Senior CES Advisor	Well Control Specialists Learning and Development	Written confirmation of Well Control Specialists capability
	Internal and external training requirements for the SC IMT validated (desktop)	Annually	Senior CES Advisor	Learning and Development	Training records in place and meet capability requirements

12 Training and Competency

All personnel who have been assigned Beach EMT roles are required to be up-to-date with their roles and associated responsibilities as defined within the EMP and OPEP.

All personnel with specific roles or responsibilities within the Beach CEM Framework receive appropriate levels of training and ongoing development commensurate with the responsibility and associated accountabilities required of each position.

A CEM Team Capability Matrix is managed and updated by the Senior Capability Advisor. A summary of oil pollution-related training and competency requirements for CMT and EMT personnel is provided in Table 12.1 and Table 12.2.

As detailed in Table 12.1 and Table 12.2, Beach has identified the minimum number of personnel per position to appropriately respond to an oil spill event over a period of 180 days (6 months). A minimum number of four trained personnel per position is based on the premise that at any time one person may be on leave or not available at the time of activation of the event. This allows for three trained personnel to be available.

Beach maintains an on-call roster of a full EMT per shift (Friday to Friday) with four EMTs on rotation but have a redundancy of additional appropriately trained and qualified staff.

Table 12.1. External training requirements for CEM capability

Course Name	Minimum personnel	PMAOMIR320 (Manage Incident Response Information)	Management (IMO L2)	Command & Control (IMO L3)	PMAOMIR418 (Coordinate Incident Response)
			EMT		
Leader	4	✓		✓	✓
Deputy	4	✓		✓	✓
Operations	4	✓	✓		✓
Planning	4	✓	✓		✓
Information Coordinator	4	✓			
Scribe	4	✓			
Environment	4	✓	✓		
Health & Safety	4	✓			
Logistics	4	✓			✓
EMLO	4	✓	✓		
Community Relations	4	✓			
			CMT		
CMT Leader	4				✓
CMT Facilitator	2	✓	✓		
CMT Members	See Table 12.2 for internal training				
			Duration and frequency of training		
Duration of Training / Course		4 days	4 days	4 days	4 days

Course Name	Minimum personnel	PMAOMIR320 (Manage Incident Response Information)	Management (IMO L2)	Command & Control (IMO L3)	PMAOMIR418 (Coordinate Incident Response)
Frequency of training / refresher		Lifetime validation, however, Beach will revalidate every 4 years	3 years, full course	3 years, full course	Lifetime validation, however, Beach will revalidate every 4 years
Current Provider		Ri'ziliens (RTO through Dalton Training Services)	AMOSC	AMOSC	Ri'ziliens (RTO through Dalton Training Services)

Table 12.2. Internal training and exercising requirements for CEM capability

Course Name	Minimum personnel	Individual OPEP / OSMP Awareness	Introduction / Refresher to Beach CEM	Desktop Exercise	EMT 'Live' OPEP test (Australia and NZ)	'Live' Exercise (with SC IMT)
			EMT			
Leader	4	✓	✓	✓	✓	✓
Deputy	4	✓	✓	✓	✓	✓
Operations	4	✓	✓	✓	✓	✓
Planning	4	✓	✓	✓	✓	✓
Information Coordinator	4	✓	✓	✓	✓	✓
Scribe	4	✓	✓	✓	✓	✓
Environment	4	✓	✓	✓	✓	✓
Health & Safety	4	✓	✓	✓	✓	✓
Logistics	4	✓	✓	✓	✓	✓
EMLO	4	✓	✓	✓	✓	✓
Community Relations	4	✓	✓	✓	✓	✓
			CMT			
CMT Leader	4	✓	✓	✓	✓	✓
CMT Facilitator	2	✓	✓	✓		✓
CMT Members	As per CMT roster	✓	✓	✓		✓
			Duration and frequency of training			
Duration of Training / Course		2 hours	3 hours	3 hours	3 hours	3 – 6 hours
Frequency of training / refresher		Annually	Annually and for onboarding new members as required	Annually	Annually for Australia and NZ	Annually
Trainer		CES Advisor (Training & Assessment	CES Advisor (TAEIV)	CES Advisor (TAEIV) and	AMOSC with CES Advisor (TAEIV)	CES Advisor (TAEIV) and

Course Name	Minimum personnel	Individual OPEP / OSMP Awareness	Introduction / Refresher to Beach CEM	Desktop Exercise	EMT 'Live' OPEP test (Australia and NZ)	'Live' Exercise (with SC IMT)
		Certificate 4, TAEIV)		external facilitator		external facilitator

Note: additional subject matter expert (SME) training, pre-spud exercises, additionally requested role specific training, training on EMQNet occur as required throughout the year, CMT exercises for CMT only scenarios, Business Continuity and IT Disaster Recovery events occur and are captured in the relevant documents and recorded as part of Beach's Training and Capability requirements. All activities are recorded in CMO and recommendations are captured and actioned recorded via this means.

13 Record Keeping

All consultation correspondence, written reports (including monitoring, audit and review reports) such as emergency exercise logs used to record the effectiveness and timeliness of the response against the objectives of the exercise, or any other record relating to the environmental performance of this OPEP will be retained for a minimum of 5 years following the cessation of activities within the scope of this OPEP.

All records must be stored in a way that makes retrieval of the document or record reasonably practicable.

Appendix A Emergency Contacts Directory (Current as of April 2020)

A. 1. External Contacts

A. 1. 1 Regulatory Contacts

Regulator	Contact	Phone	E-Mail
AMSA	Marine oil pollution	1800 641 792	mdo@amsa.gov.au https://www.amsa.gov.au/about/contact-us
DAWE	Marine Compliance Duty Officer	0419 293 465 (24/7)	marineparks@awe.gov.au
	Switchboard	02 6274 1111	
NOPSEMA	Emergency	1300 674 472	submissions@nopsema.gov.au
NOPTA	Titles		titles@nopta.gov.au & info@nopta.gov.au
Vic DJPR	General	13 61 86	customer.service@ecodev.vic.gov.au
	State Duty Officer	0409 858 715 (24/7)	sccvic.sdo.dedjtr@scc.vic.gov.au & semdincidentroom@ecodev.vic.gov.au
Vic DELWP	State Control Centre	1300 134 444	sscviv.scmdr.delwp@scc.vic.gov.au
	Customer Service Centre	136186	
Vic Gippsland Ports	Duty Officer	(03) 5150 0500	
Tas DPIPWE	Pollution Hotline	+61 (0)3 6165 4599 or 1800 005 171 (within Tasmania only) Radio: TasPorts Vessel Traffic Services VHF radio channel 16/14/12 Call sign "relevant port name VTS"	incidentresponse@epa.tas.gov.au
	Whale Hotline	0427 942 537	
	Natural and Cultural Heritage (OWR) Division	(03) 6165 4396	Kathryn.Lambert@dpipwe.tas.gov.au
Transport for NSW	Manager, Marine Pollution & Emergency Response	0419 484 446	Shayne.wilde@transport.nsw.gov.au
Port Authority of NSW	Harbour Master, Eden Operations	0438 374 034	pwebster@portauthoritynsw.com.au

A. 1. 2 Responder Contacts

Responder	Function	Contact	Phone	E-Mail
Adagold Aviation Pty Ltd	Fixed-wing aviation support		1800 767 747	
Bristows	Helicopter support		(03) 5991 9591	
AMOSC	Spill Response - all		0438 379 328	
AMSA	Spill Response - vessel		1800 641 792	
Boots and Coots (Halliburton) (Australia, New Zealand, Papua New Guinea, Timor Leste)	Well Control Specialist	Level 27, 140 St. Georges Terrace Perth WA 6000 Australia	Perth: (08) 9455 8300 or 24/7: +1-281-931-8884 or 1-800-BLOWOUT	
Cudd Well Control (Houston)	Well Control Specialist	2828 Technology Forest Blvd, The Woodlands, TX 77381	Ph: 713.849.2769 Fax: 713.849.3861	cwcinfo@cudd.com

A. 1. 3 OSMP Consultant Contacts

Consultant	Service	Contact	Phone	E-Mail
BMT	OSMP implementation	Level 4 20 Parkland Rd Osborne Park Western Australia 6017	+61 8 6163 4900	environment.env@bmtglobal.com
Cardno	OSMP implementation	Level 11 515 St Paul's Terrace Fortitude Valley QLD 4006	+61 (7) 3369 9822	
GHD	OSMP implementation	Level 10 999 Hay Street Perth, Western Australia 6000	+61 8 6222 8222	
RPS	OSMP Implementation Plan	27 – 31 Troode Street, West Perth, WA, 6005	(08) 9211 1111	

A. 2. Internal Beach Contacts

A. 2. 1 Internal Beach Contacts

Contact / Function	Phone	Email
BassGas Production Manager	0403 122 554	
CMT Leader	(03) 9411 2147 (via the NRC)	
EMT Leader	(03) 9411 2147 (via the NRC)	
SC IMT Leader	(03) 9411 2147 (via the NRC)	
Crisis, Emergency & Security Advisor	0447 718 481	ces@beachenergy.com.au

A. 3. Emergency Management Team Role Checklists for Oil Pollution Event

Role	Responsibility
EMT Leader	❑ Recognise and maintain response priorities (**P**eople, **E**nvironment, **A**ssets, **R**eputation and **L**ivelihood) ❑ Provide strategic direction and leadership to the whole EMT – this will include the OP IMT and the SC IMT. ❑ Determine structure of response team, discuss with OP IMT Leader and activate EMT/OP IMT ❑ Develop and implement a coordinated range of support initiatives across the activated teams (SC IMT and OP IMT) to resolve the event, including being the conduit of information to the CMT Leader; and ❑ Communicate the format in which discussions will occur (e.g. utilising Team Process' or regular timing schedule for updates) ❑ Decide on communications method with CMT Leader (via EMT Leader or Deputy) **Activate/Update/Initial actions** ❑ Activate the OSMP/OPEP (possibly, in consultation with EMT Environment) ❑ Government and corporate communications ❑ Chair team meetings / briefing / debrief sessions – set and review response objectives ❑ Carry out incident assessment and escalation potential analysis: ▪ Are all people accounted for and safe? ▪ Is the sources isolated? ▪ What is the current size of the spill? ▪ What is it? (product name and properties) ▪ Where is it? (GPS reference, distance and bearing from, place name) ▪ How big is it? (Volume, area) ▪ Where is it going? (Current forecast, weather and tide) ▪ When will it get there? ▪ What is in the way? (Prioritise protection) ▪ What is happening to it? (Weathering) ▪ How could it escalate? ❑ Roles and responsibilities: ▪ Statutory agency ▪ Combat agency ❑ Notifications: ▪ Reports ▪ Crisis Management Team ▪ EPA ▪ Key Stakeholders ❑ Assess and declare the event level– consult with CMT to carry out organisational as required (through CMT Communications) ❑ Discuss with CMT Leader requirement for additional SMEs to be brought into the EMT (or specialist teams) or into the CMT ❑ Escalate / de-escalate event as appropriate and carry out associated activations / notifications ❑ Review and approve meeting minutes / actions on event status boards and task list ❑ Establish / review team objectives **Issues** ❑ Recognise and maintain response priorities (People, Environment, Assets, Reputation and Livelihood) and ensure response teams are doing the same ❑ Response strategy development / review and execution – refer to specific EMP Appendices for response and communications guidance, information, contingency plans and SOPs ❑ Identify other emergency or crisis management plans that are endorsed by regulators for the impacted asset and what thresholds these plans have regarding activation of and coordination with additional teams ❑ Alignment / consistency of EMT members' actions and activities – manage response continuity ❑ Align EMT actions and response with those of other activated response teams (e.g. ERT / CMT) ❑ Communications strategy and requirements (with relevant EMT members) ❑ Industry wide considerations (including notifications – joint response obligations) ❑ Industry / NOPSEMA communication obligations ❑ Impact minimisation – contain event and begin recovery ❑ Regulatory notification requirements (e.g. ESV, NOPSEMA etc) within timelines as defined in licenses

Role	Responsibility
	Stakeholders ❑ Contribute to stakeholder identification and prioritisation ❑ Customers – review / assess ongoing impact to customers (liaise with EMT Logistics or Commercial)) ❑ Consider stakeholder needs and expectations – e.g. regulators, government agencies, emergency services, community groups, employees, media outlets, customers, retailers ❑ Other industry participants and communications / notification groups – as per Emergency Communications Protocol (if applicable) ❑ Industry partners – e.g. retail companies, contractors (per industry practices and contractual obligations) ❑ Industry meetings – attend meetings / arrange representation, contribute on behalf of Beach ❑ Regulators (e.g. ESV, NOPSEMA, UTR etc) – advise regulators of operating constraints (e.g. reduced pipeline operating pressures) ❑ EMT CMT Leader – provide SITREP / briefing as event changes and following EMT meetings **Actions** ❑ During any absences from the Emergency Management Room, delegate to Deputy or Planning to support team function ❑ Guide and advise EMT members on response requirements, identify and allocate tasks ❑ Activate support teams as necessary to assist the response (including subject matter experts, system technical / supply advisers, communications specialists) ❑ Establish team meeting / briefing schedule (including frequency and timing) – with EMT Planning ❑ Provide regular updates to CMT ❑ Identify and apply appropriate plans, procedures and work instructions ❑ Refer any media interest to EMT Communications ❑ Consider shift handover for extended responses – including for support staff / teams ❑ Log of events – maintain and record your decisions, actions, updates and contacts **Concluding Actions** ❑ Identify and complete all outstanding actions and obligations ❑ Ensure all relevant strategy specific termination criteria have been met in agreement with Control Agency ❑ Declare end of event and coordinate / chair EMT debriefing ❑ Formulate and implement a stand down plan with other activated response and support teams – manage consistency and coordination of actions ❑ Confirm notification of all operational resources / 3rd party responders of event conclusion ❑ Authorise and participate in the post-event investigations (by Legal representative) – assign actions, track and monitor progress and completion status ❑ Provide all log sheets and written records / correspondence to EMT Planning

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EMT Leader	❑ Recognise and maintain response priorities (**P**eople, **E**nvironment, **A**ssets, **R**eputation and **L**ivelihood) ❑ Provide strategic direction and leadership to the whole EMT – this will include the OP IMT and the SC IMT. ❑ Determine structure of response team, discuss with OP IMT Leader and activate EMT/OP IMT ❑ Develop and implement a coordinated range of support initiatives across the activated teams (SC IMT and OP IMT) to resolve the event, including being the conduit of information to the CMT Leader; and ❑ Communicate the format in which discussions will occur (e.g. utilising Team Process' or regular timing schedule for updates) ❑ Decide on communications method with CMT Leader (via EMT Leader or Deputy) **Activate/Update/Initial actions** ❑ Activate the OSMP/OPEP (possibly, in consultation with EMT Environment) ❑ Government and corporate communications ❑ Chair team meetings / briefing / debrief sessions – set and review response objectives ❑ Carry out incident assessment and escalation potential analysis: ▪ Are all people accounted for and safe? ▪ Is the sources isolated? ▪ What is the current size of the spill? ▪ What is it? (product name and properties) ▪ Where is it? (GPS reference, distance and bearing from, place name) ▪ How big is it? (Volume, area) ▪ Where is it going? (Current forecast, weather and tide) ▪ When will it get there? ▪ What is in the way? (Prioritise protection) ▪ What is happening to it? (Weathering) ▪ How could it escalate? ❑ Roles and responsibilities: ▪ Statutory agency ▪ Combat agency ❑ Notifications: ▪ Reports ▪ Crisis Management Team ▪ EPA ▪ Key Stakeholders ❑ Assess and declare the event level– consult with CMT to carry out organisational as required (through CMT Communications) ❑ Discuss with CMT Leader requirement for additional SMEs to be brought into the EMT (or specialist teams) or into the CMT ❑ Escalate / de-escalate event as appropriate and carry out associated activations / notifications ❑ Review and approve meeting minutes / actions on event status boards and task list ❑ Establish / review team objectives **Issues** ❑ Recognise and maintain response priorities (People, Environment, Assets, Reputation and Livelihood) and ensure response teams are doing the same ❑ Response strategy development / review and execution – refer to specific EMP Appendices for response and communications guidance, information, contingency plans and SOPs ❑ Identify other emergency or crisis management plans that are endorsed by regulators for the impacted asset and what thresholds these plans have regarding activation of and coordination with additional teams ❑ Alignment / consistency of EMT members' actions and activities – manage response continuity ❑ Align EMT actions and response with those of other activated response teams (e.g. ERT / CMT) ❑ Communications strategy and requirements (with relevant EMT members) ❑ Industry wide considerations (including notifications – joint response obligations) ❑ Industry / NOPSEMA communication obligations ❑ Impact minimisation – contain event and begin recovery ❑ Regulatory notification requirements (e.g. ESV, NOPSEMA etc) within timelines as defined in licenses

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	Stakeholders ❑ Contribute to stakeholder identification and prioritisation ❑ Customers – review / assess ongoing impact to customers (liaise with EMT Logistics or Commercial)) ❑ Consider stakeholder needs and expectations – e.g. regulators, government agencies, emergency services, community groups, employees, media outlets, customers, retailers ❑ Other industry participants and communications / notification groups – as per Emergency Communications Protocol (if applicable) ❑ Industry partners – e.g. retail companies, contractors (per industry practices and contractual obligations) ❑ Industry meetings – attend meetings / arrange representation, contribute on behalf of Beach ❑ Regulators (e.g. ESV, NOPSEMA, UTR etc) – advise regulators of operating constraints (e.g. reduced pipeline operating pressures) ❑ EMT CMT Leader – provide SITREP / briefing as event changes and following EMT meetings **Actions** ❑ During any absences from the Emergency Management Room, delegate to Deputy or Planning to support team function ❑ Guide and advise EMT members on response requirements, identify and allocate tasks ❑ Activate support teams as necessary to assist the response (including subject matter experts, system technical / supply advisers, communications specialists) ❑ Establish team meeting / briefing schedule (including frequency and timing) – with EMT Planning ❑ Provide regular updates to CMT ❑ Identify and apply appropriate plans, procedures and work instructions ❑ Refer any media interest to EMT Communications ❑ Consider shift handover for extended responses – including for support staff / teams ❑ Log of events – maintain and record your decisions, actions, updates and contacts **Concluding Actions** ❑ Identify and complete all outstanding actions and obligations ❑ Ensure all relevant strategy specific termination criteria have been met in agreement with Control Agency ❑ Declare end of event and coordinate / chair EMT debriefing ❑ Formulate and implement a stand down plan with other activated response and support teams – manage consistency and coordination of actions ❑ Confirm notification of all operational resources / 3rd party responders of event conclusion ❑ Authorise and participate in the post-event investigations (by Legal representative) – assign actions, track and monitor progress and completion status ❑ Provide all log sheets and written records / correspondence to EMT Planning

EMT Planning

- ❑ This position is help by an IMO2 qualified EMT Member
- ❑ Provides support to the EMT Leader in delivering timely integrated crisis management actions
- ❑ May serve as a sounding board for the EMT Leader
- ❑ Will assist the EMT Leader in developing the objectives in the first hour of notification of an event;
- ❑ EMT Planning will manage the EM Room and team members within it. This includes moderating discussions and adherence to the rules of the room leading the 'Team Process'
- ❑ EMT Planning is the 2IC of the EMT and is the conduit of information from the Leader to the Information Coordinator and Scribe. EMT Planning will act as Leader when the EMT Leader steps out or is unavailable.

Activate/Update

- ❑ Upon activation, attend the EMT as directed – obtain event briefing from EMT Leader
- ❑ Create and distribute POLREP within first 60 minutes of notification
- ❑ Commence a personal event log
- ❑ Determine level of response and staffing requirements – in consultation with EMT Leader
- ❑ Establish Emergency Management Room and notify EMT members of its location – verify that all equipment is present and functioning correctly (with EMT Information Coordinator)
- ❑ Advise EMT Leader of status of team members (available / unavailable / arrived / en-route)
- ❑ Confirm ERT / CMT contact information, distribute Emergency Management Room (EMR) / EMT contact information
- ❑ Consider the need to appoint separate role holders for the EMT Planning and Information Coordinator roles (with EMT Leader)

Activation

- ❑ Assist EMT Leader to chair meetings / briefing sessions
- ❑ Contribute to overall event assessment based on current information
- ❑ Prompt EMT Leader to establish / review team objectives
- ❑ Advise EMT members on EMT process, their roles, responsibilities and any outstanding actions / commitments and ensure induction for new/incoming members
- ❑ Prepare SITREP (coordinate with Information Coordinators) – distribute to activated response team/s
- ❑ Initiate personal log of events

Phase 1:

- ❑ Recognise and maintain response priorities (**P**eople, **E**nvironment, **A**ssets, **R**eputation and **L**ivelihood)
- ❑ Obtain and collate IAP documentation
- ❑ Identify immediate priority areas for protection
- ❑ Draft IAP, recording response:
  - Aim
  - Objectives
  - Response Strategies
  - Tasks
  - Resourcing
- ❑ Present IAP to EMT Leader for approval and distribute
- ❑ Conduct NEBA
- ❑ Conduct Trajectory (ADIOS)
- ❑ Security and integrity of EMR and safety of EMT members – authorised entry for the EMR
- ❑ Administrative and logistical support required by the EMT (deploy support groups)
- ❑ Monitor and manage effectiveness, morale and fatigue levels of the EMT
- ❑ Extended operation – assist EMT Leader with EMT member shift changes, manage to minimise impact on response continuity and fatigue of team members
- ❑ Resourcing – identify and provide support resources to assist the EMT to function (e.g. facilities, administrative and logistical, current and future needs, establish a SAP work centre cost code for time writing purposes)

Phase 2:

- ❑ Information Review
- ❑ Planning Preparations
- ❑ Response Strategies
- ❑ Supporting Plans
  - Health and Safety
  - Waste Management

- Oiled Wildlife Response

- ❑ Further develop IAP
- ❑ Implement response strategies

Ongoing Actions

- ❑ Manage information flow and ensure information remains up-to-date
- ❑ Obtain regular updates from Operations, Logistics and CMT Finance, Information Coordinator and Scribe
- ❑ Report Key outcomes to the EMT Leader
- ❑ Monitor / manage the EMT membership (e.g. monitor fatigue and effectiveness, source alternates)
- ❑ Assist EMT Leader with EMT briefing schedule (preparation, execution, timing)
- ❑ Monitor team log – ensure that key event information is recorded (e.g. decisions, actions, updates and contacts) and confirm this is undertaken by the EMT Information Coordinators when activated

- ❑ Consider shift handover for extended responses – including for support personnel
- ❑ Log of events – maintain and record your decisions, actions, updates and contacts

Concluding Actions

- ❑ Identify End Point Criteria
- ❑ Notify all staff
- ❑ Ensure completion of duties

and identify and complete all outstanding actions and obligations

- ❑ Assist EMT Leader to coordinate / chair EMT debriefing and implement an EMT stand down plan
- ❑ Issue a notification to the business regarding stand down of the EMT
- ❑ Collect and collate log sheets written records / correspondence from all EMT members – compile a comprehensive master event log and provide to CMT Legal
- ❑ Review post-event reports and identify areas for improvement (with EMT Leader) – assign actions and track their progress and completion
- ❑ Review Emergency Management Plan and identify updates

EMT Information Coordinator	❑ The Information Coordinator is responsible for ensuring accurate and appropriate collection and recording of information ❑ The Information Coordination is responsible advising the EMT Scribe, as required, regarding room set up and populating the display charts **Activate/Update** ❑ Upon activation, attend the EMT as directed – report to EMT Planning for briefing and requirements ❑ Assist EMT Planning with EM Room setup – confirm all equipment is present and functioning ❑ Prepare recording devices for use e.g. whiteboards, laptops etc. ❑ Compile an initial Situation Report, collating all the key event information and data – provide to the EMT Leader for review and distribution ❑ On instruction from the EMT Planning, assist in initiating a team log of events – consult EMT members as necessary for clarification and details of response actions undertaken so far ❑ Maintain a record of the status on the Status Board as directed by the EMT Leader ❑ Record / document EMT briefing meetings – record decisions, actions and outcomes ❑ Update event records immediately following EMT briefings ❑ Assist EMT Planning with preparation of event SITREPs **Issues** ❑ Record / document EMT issues ❑ Information updates / current event statistics and data – gather, compile and provide to the EMT Leader ❑ Key event information – identify required information categories with EMT Leader (e.g. geographical area affected, number of customers impacted, resources deployed, response / recovery duration) **Stakeholders** ❑ Record stakeholder identification, prioritisation and notifications ❑ EMT Leader – provide information and statistics on the size and scale of the event, assist with their distribution to internal stakeholders **Actions** ❑ Maintain an accurate and chronological team log / record of events ❑ Your recording function is critical – DO NOT get involved in any other activities ❑ Record actions / tasks assigned to EMT members and track their status – inform EMT members of overdue tasks / unfulfilled commitments ❑ Notify EMT Planning if you are having trouble maintaining event records (e.g. unsure of what to record, volume of information is too great, too many discussions occurring simultaneously) ❑ Request additional Information Coordinators as required – assign tasks and responsibilities ❑ Clarify any confusion of events / actions as soon as apparent ❑ Prepare and populate an information template to capture key event information ❑ Display and maintain information hardcopies in EMR (e.g. media releases, contact lists, event details – maps, details of event scene) **Actions** ❑ Be prepared to compile and distribute minutes / status summaries during the event as required – liaise with EMT Planning for assistance ❑ Maintain a record of EMT members assigned to team roles / present in the EM Room ❑ Consider shift handover for extended responses – including for support personnel ❑ Log of Events – maintain / record TEAM decisions, actions and contacts **Concluding Actions** ❑ Enter any outstanding information into recording logs / devices ❑ Identify and complete any outstanding actions and obligations ❑ Participate in event debriefs as necessary – act as recording secretary ❑ Assist EMT Planning to collect and consolidate log sheets and written records / correspondence into a master event log

EMT Scribe	❑ The Scribe is responsible for commencing the event on EMQNet and ongoing updating of stakeholders and tasks ❑ The Scribe is responsible for populating the display charts, under the direction of the Information Coordinator ❑ The Scribe is responsible for maintaining the visual display of EMT and CMT members phone numbers, and the start and finish time of CMT Members (for fatigue management) ❑ Continuous management and updating of EMQNet, preparation of SITREPs as requested ❑ Maintains a record of the event and the activities of the EMT for reference during the event and following return to BAU ❑ Record of all stakeholder notification and engagement required ❑ Records all financial commitments, costs for informing the CMT Finance of costs (expended and anticipated). **Activate/Update/Initial Actions** ❑ Upon activation, attend the EMT as directed – report to Information Coordinator for briefing and requirements ❑ Assist EMT Information Coordinator with Emergency Management room setup – confirm all equipment is present and functioning ❑ Prepare recording devices for use e.g. whiteboards, laptops etc. ❑ Compile an initial Situation Report collating all the key event information and data – provide to the EMT information Coordinator for review and distribution ❑ On instruction from the EMT Planning, assist in initiating a team log of events– consult EMT members as necessary for clarification and details of response actions undertaken so far ❑ Maintain a record of the status on the Status Board as directed by the EMT Information Coordinator ❑ Record / document EMT briefing meetings – record decisions, actions and outcomes ❑ Update event records immediately following EMT briefings ❑ Assist EMT Information Coordinator with preparation of event SITREPs **Phase 1** ❑ Information updates / current event statistics and data – gather, compile and provide to the Leader ❑ Key event information – identify required information categories with EMT Leader (e.g. geographical area affected, number of customers impacted, resources deployed, response / recovery duration) **Phase 2:** ❑ Maintain an accurate and chronological team log / record of events ❑ Your recording function is critical – DO NOT get involved in any other activities ❑ Record actions / tasks assigned to EMT members and track their status – inform EMT members of overdue tasks / unfulfilled commitments ❑ Notify EMT Planning if you are having trouble maintaining event records (e.g. unsure of what to record, volume of information is too great, too many discussions occurring simultaneously) ❑ Request additional Information Coordinators as required – assign tasks and responsibilities ❑ Clarify any confusion of events / actions as soon as apparent ❑ Prepare and populate an information templates to capture key event information ❑ Display and maintain information hardcopies in EMR (e.g. media releases, contact lists, event details – maps, details of event scene) ❑ Be prepared to compile and distribute minutes / status summaries during the event as required – liaise with EMT Planning for assistance ❑ Maintain a record of EMT members assigned to team roles / present in the EMR ❑ Consider shift handover for extended responses – including for support personnel ❑ Log of Events – maintain / record TEAM decisions, actions and contacts **Concluding Actions** ❑ Enter any outstanding information into recording logs / devices ❑ Identify and complete any outstanding actions and obligations ❑ Participate in event debriefs as necessary – act as recording secretary ❑ Assist EMT Planning to collect and consolidate log sheets and written records / correspondence into a master event log

EMT Community Relations	EMT Community Relations will most likely go on to be part of the Crisis Communication Team (CxT), but will remain the conduit of information between the EMT and the CxT (in the CMT); **Activate/Update** ❑ Contribute to overall event assessment based on current information ❑ Provide input to a review of the severity classification ❑ Review response outcomes against external communications and community management objectives ❑ Advise the EMT on likely / expected reputational and community perspectives, interest and reactions ❑ Establish contact with any other activated external communications or community teams / representatives within Beach (including CxT) – agree on standard event communication protocols ❑ Initiate personal log of events ❑ Confirm the EMT Leader communications needs and expectations ❑ Identify any response-related communications already undertaken or received ❑ Refer to Crisis Communications Plan (If applicable) (Attachment 1 of CMP) **Issues** ❑ Recognise and maintain response priorities (People, Environment, Assets, Reputation and Livelihood) ❑ Communication priorities (establish in consultation with CxT Leader) ❑ Media / reputation exposures – communicate to the EMT any immediate, emerging and ongoing communications issues, interest and activity (e.g. traditional and social media, NGOs, other stakeholders) ❑ External scrutiny – monitor external (e.g. media) awareness / reporting of event ❑ Spokesperson considerations – Identify need early and discuss with CxT/CMT Communications ❑ Media attendance – arrange through any media attending event scene / Beach locations (including security, segregation from response, response to information requests, communication of key messages) ❑ Influential / aggressive media or community stakeholders – with CxT/CMT Communications, formulate specific response strategies, prepare spokesperson ❑ External contact – manage filtering, prioritisation and re-direction of incoming event related calls (e.g. media, next of kin, community) including resource requirements, information needs (e.g. approved / key messages) ❑ Call centre / switchboard, IVR messaging, SMS, websites – with CxT/CMT Communications, identify resource requirements, actions, information needs (including currency and accuracy of scripts / information) **Stakeholders** ❑ Identify key media, government and community contacts and develop briefing schedule / management strategy –assign responsibilities to individual CxT members ❑ Prompt direction from CxT/CMT Communications, Inform / notify relevant media, community groups and external agencies ❑ Provide updates on external and community related issues and actions/support, utilise for implementation of communications and media strategies at the event scene **Actions** ❑ Activate support personnel / groups and media / communication strategies as necessary – brief activated teams ❑ Consider stakeholder feedback during response strategy development, advise EMT on stakeholder perspectives, interest and reactions ❑ Develop media and community plans and materials and manage its distribution ❑ Coordinate prompt development, review and approval of communications material (e.g. event information, community / public safety information etc)– with EMT Emergency Manager, Legal, Commercial ❑ Develop key messages and materials for media and community – maintain consistency between messages from Communications and with other activated teams (e.g. ERT, CMT) ❑ Maintain EMT awareness and understanding of key messages ❑ Establish, maintain and distribute disclosure standards and communications protocols – clearly communicate which information is confidential and which may be released ❑ Prompt EMT members to maintain records of all stakeholder interactions ❑ Keep a communications log of all event related calls made / received ❑ Undertake notification and management of assigned stakeholders ❑ Consider shift handover for extended responses – including for support personnel ❑ Log of events – maintain and record your decisions, actions, updates and contacts

Concluding Actions

- ❑ Advise EMT leader on the timing and reputational and community implications of stand down timing
- ❑ Identify and complete all outstanding actions and obligations
- ❑ Participate in event debriefs as necessary (including with CMT is required)
- ❑ Provide all log sheets and written records / correspondence to EMT Planning (including communications logs)
- ❑ Consider on-going media and community attention – develop suitable management strategies
- ❑ Confirm that all relevant stakeholders are notified of the event conclusion
- ❑ Review effectiveness of the CxP and identify areas for improvement Upon activation, attend or advise the EMT as directed – obtain event briefing from EMT Leader and assist (as requested) with classification on the Event Classification Matrix

EMT Logistics

- ❑ Coordination of resources required to the affected site as well as required within the EMT.

Activate/Update/Initial Actions

- ❑ Upon activation, attend or advise the EMT as directed – obtain event briefing from EMT Leader
- ❑ Initiate personal log of events
- ❑ Consider setting up a process to track, manage and collect costs and how to report to CMT Finance
- ❑ Provide an event update to the EMT on response resourcing (e.g. the availability of support services, equipment and materials and the status of outstanding resources requests)
- ❑ Ensure implementation of Procurement Strategy
- ❑ Ensure implementation of Staging Area Strategy
- ❑ Ensure implementation of Communications Strategy (working with CMT Communications)
- ❑ Ensure implementation of Medical Strategy (working with EMT H&S and Source Control IMT)
- ❑ If required, build support to include Procurement Coordinator, Staging Area Coordinator, Communications Coordinator and Medical Coordinator

Initial Response

- ❑ Recognise and maintain response priorities (People, Environment, Assets, Reputation and Livelihood)
- ❑ Establish spill/pollution response equipment list for the required area(s) and place on standby or mobilise as required, including:
  - Dispersant (Boat/Air)
  - Oil Spill Response Equipment
  - Transport
  - Accommodation/Food
  - PPE
  - Waste Management Gear
  - Vessels
  - Crane
  - Personnel
  - Lay Down Area
- ❑ Establish other agencies and authorities available for support
- ❑ Organise air/vessels/locals to monitor and evaluate
- ❑ EMT response resource requirements – manage supply and deployment to site (in liaison with EMT Operations and ERT Resource Management)
- ❑ Response funding – activate management processes (e.g. fund tracking / transfer procedures)
- ❑ Resource usage, prioritisation and estimation of (and resource allocation to) future service and support requirements – develop a resource plan for the event
- ❑ Staging areas for coordination of operational dispatch and relief of resources
- ❑ Specialist response needs – source specialist personnel, services and equipment (manage ongoing resourcing) – liaise with EMT Operations for requirements
- ❑ Contractual requirements and implications related to emergency utilisation of contract staff currently allocated to undertaking scheduled / planned works

Ongoing Response

- ❑ Activate support personnel / group as necessary – brief and allocate tasks
- ❑ Identify service and support requirements for planning operations
- ❑ Mobilise spill response gear as required
- ❑ Update team on ETA of resources
- ❑ Request support from other agencies/authorities such as:
  - Fire
  - Police
  - SES
  - Council
  - Labour Hire
  - Ports and Harbours
  - Community Groups
  - Local Companies
- ❑ Refer any media interest to EMT Communications
- ❑ Consider shift handover for extended responses – including for support personnel
- ❑ Log of events – maintain and record your decisions, actions, updates and contacts

Concluding Actions

- ❑ Identify and complete all outstanding actions and obligations
- ❑ Participate in event debriefs as necessary
- ❑ Collect and collate records of all procurements relating to the event – produce a comprehensive record of ordering, delivery and invoicing of supplies and services for accounts processing
- ❑ Confirm payment of all external / third party suppliers, close all response-related purchase orders
- ❑ Formulate and manage implementation of an event demobilisation plan for response resources (liaise with ERT Logistics and EMT Operations)
- ❑ Ensure clean up and repair or assets if required
- ❑ Provide all log sheets and written records / correspondence to EMT Planning

EMT Health & Safety

- ❑ The Health and Safety Response functions ensures that the resolution activities are in accordance with Beach's HSE directives and meet all the regulatory requirements.
- ❑ The HSE function will work closely with the CMT HSE & Risk representative.

Activate/Update

- ❑ Upon activation, attend or advise the EMT as directed – obtain event briefing from EMT Leader and assist with set up as and notifications as required
- ❑ Initiate personal log of events
- ❑ Review any safety or environment related response, activity or contacts made prior to your arrival
- ❑ Contribute to overall event assessment based on current information
- ❑ Provide input to a review of the event classification
- ❑ Brief EMT on those people injured or at risk, as well as any environmental activities and issues

Issues

- ❑ Recognise and maintain response priorities (**P**eople, **E**nvironment, **A**ssets, **R**eputation and **L**ivelihood)
- ❑ Status of people injured or at risk – source from affected site and update EMT (including head count, casualty numbers, locations and status), provide to EMT Operations
- ❑ Liability – identify any deviation between safety and environment procedural / policy requirements and any actions leading up to and during the event / response
- ❑ Common faults – identify any elements of the event that may impact other Beach assets (e.g. through use of similar equipment / processes or operating conditions / environments)

Stakeholders

- ❑ Contribute to stakeholder identification and prioritisation
- ❑ Regulatory reporting – verify that appropriate HSE regulatory bodies have been contacted – including state Safe Work regulators
- ❑ ERT HSE – assist the affected ERT(s) with health and safety management at the scene
- ❑ Liaise with CMT Legal – discuss legal privilege requirements and impacts on response and investigations

Actions

- ❑ Facilitate H&S risk assessments to inform development of IAPs
- ❑ Activate support personnel / group as necessary – brief and allocate tasks
- ❑ Assist and advise the EMT in development of an appropriate response strategy
- ❑ Provide the EMT with relevant company records or data (e.g. safety and environment policy records, training records, qualifications of affected personnel, company HSE statistics)
- ❑ Provide EMT with specialist H&S advice and support relevant to the response (including critical issues)
- ❑ Document injury / fatality details and advise EMT on legislative reporting
- ❑ Undertake notification and management of assigned stakeholders
- ❑ Refer any media interest to EMT Communications
- ❑ Consider shift handover for extended responses – including for support personnel
- ❑ Log of events – maintain and record your decisions, actions, updates and contacts

Concluding Actions

- ❑ Identify and complete all outstanding actions and obligations
- ❑ Participate in event debriefs as necessary
- ❑ Provide all log sheets and written records / correspondence to EMT Planning
- ❑ Assist EMT Human Resources to organise counselling for affected personnel and monitor attendance
- ❑ Assist in final reporting to safety regulators – verify that requirements have been met
- ❑ Monitor any long-term health, environment or ecological effects related to the event or the response

EMT Environment	**Activate/Update** ❑ Consult with EMT Leader on activating the OSMP/OPEP ❑ Establish protection priorities and objectives in collaboration and agreement with Control Agency ❑ Develop Operational NEBA in collaboration and agreement with Control Agency ❑ Develop strategy specific incident action plans (IAPs) (excluding well control) in collaboration and agreement with Control Agency ❑ Feedback into the EMT about notifications and reporting requirements ❑ Monitor and evaluate – plane for visibility (AMOSC will supply trained aerial observer) ❑ Ongoing modelling (trajectory) APASA ❑ Work with EMT Logistics to deploy satellite tracking buoy ❑ GIS person is pulled in as part of the team, to provide mapping and visibility ❑ Implement Operational and Scientific Monitoring Plan (OSMP) ❑ Feedback monitoring and evaluation into the Team Meeting and Operational Planning Cycle ❑ Community information – work with EMT Communication for community liaison and stakeholder tracking. **Issues** ❑ Recognise and maintain response priorities (People, Environment, Assets, Reputation and Livelihood) **Stakeholders** ❑ Contribute to stakeholder identification and prioritisation ❑ Regulatory reporting – verify that appropriate HSE regulatory bodies have been contacted – including state Environmental protection Agencies **Actions** ❑ For any spill or release verify that appropriate surveillance and tracking is in place ❑ Consider the requirement to monitor possible environmental and ecological effects of any release ❑ If relevant, provide a profile of areas likely to be affected by any toxic release (produce maps if possible) – assist activated ERT(s) to prioritise areas for protection / special consideration ❑ Undertake actions as per any pre-prepared Environmental Plan or Oil Pollution Response Plans ❑ Provide the EMT with relevant environmental contaminants registers for affected systems (e.g. PFOS/PFAS) ❑ Consider shift handover for extended responses – including for support personnel ❑ Log of events – maintain and record your decisions, actions, updates and contacts ❑ Provide the EMT with relevant company records or data (e.g. environment policy records) **Concluding Actions** ❑ Identify and complete all outstanding actions and obligations ❑ Participate in event debriefs as necessary ❑ Provide all log sheets and written records / correspondence to EMT Planning ❑ Assist in final reporting to environmental regulators – verify that requirements have been met ❑ Monitor any long-term environment or ecological effects related to the event or the response

Emergency Management Liaison Officer	This role is held by an IMO2 qualified EMT Member **Key Interfaces** ❑ EMT HSE: Provide updates, advise on HSE issues ❑ The Department of Jobs, Precincts and Regions (DJPR): is Victoria's State Government mining and resources regulator. Under the Emergency Management Act (EMA) 2013, DJTR is the control agency for marine pollution Oil Pollutions in Victorian coastal waters up to three nautical miles. ❑ NOPSEMA: According to the EMA 2013, the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) is the Statutory Agency for oil related spills greater than three nautical miles from the Victorian shoreline. ., While NOPSEMA maintains regulatory oversight of offshore petroleum incidents, offshore petroleum titleholders are required to control the response activities ❑ AMOSC: The oil industry established The Australian Marine Oil Pollution Centre (AMOSC) as a not-for-profit subsidiary company of the Australian Institute of Petroleum (AIP). To respond to oil related incidents **Activate/Update** ❑ Upon activation, attend or advise the EMT as directed – obtain event briefing from EMT Leader and assist (as requested) with event classification per the Event Classification Matrix ❑ Initiate personal log of events ❑ Review any safety or environment related response, activity or contacts made prior to your arrival ❑ Provide assessment of the stakeholders that require notification ❑ Gain approval EMT Leader to notify appropriate stakeholders ❑ Ensure AMOSC is notified and deployed **Issues** ❑ Coordinate Beach Energy and Emergency Services response for injured via the appropriate control agency ❑ Check legal position of notifications and messaging and gain approval to proceed ❑ Ensure the internal stakeholders are notified of the incident and the notification requirements of control agencies **Stakeholders** ❑ Prioritize safety of the public and employees ❑ Confirm liaison point of control agency under the EMA 2013 ❑ Confirm liaison point for AMOSC ❑ Set regular teleconferences and agendas ❑ Set location of meetings in control agency wishes to meet in person ❑ Appoint a scribe to note take and update the EMT after all meeting ❑ Receive sitreps from the EMT via EMQNet or dial in to update briefs **Actions** ❑ Regularly update EMT on control agency and AMOSC coordination ❑ Maintain meeting minutes and actions in the form of a sitrep which is shared amongst the EMT, control agency and AMOSC ❑ Refer any media interest to EMT Leader (to enable immediate referral to EMT) ❑ Consider shift handover for extended responses (greater than 8 hours)– including support personnel such as a scribe ❑ Log of events – maintain and record your decisions, actions, updates and contacts **Concluding actions** ❑ Identify and complete all outstanding actions and obligations ❑ Participate in event debrief/s as necessary ❑ Provide all log sheets and written records / correspondence to EMT Information Coordinator ❑ Assist EMT Human Resources to organise counselling for affected personnel and monitor attendance ❑ Assist in final reporting to safety and environment regulators – verify that requirements have been met ❑ Monitor any long-term health, environment or ecological effects related to the event or the response

EMT Operations	❑ This function may be the conduit of information from the site/field, as directed by the EMT Leader. ❑ This function may activate as specialist teams but maintain the requirement to be part of the 'Team Process' and provide a representative to the EMT ❑ Monitor rosters and resources of the affected site during a declared event until the EMT Planning role is activated. Communicate with the affected ERT Incident Manager or Site Controller and assist with coordination of all activities undertaken directly to resolve an event. This includes oversight and application of company resources to the response and at the scene in support of the EMT response strategy. Provide technical advice on the affected system/assets that may involve alternate response strategies and overall assessment of impacts that the event and any planned response may have on production. **Activate/Update/Initial Actions** ❑ First Strike Response ❑ Report to EMT Room ❑ Initiate personal log of events ❑ Provide event updates to the EMT, including current situation, response progress, emergent risks ❑ Contribute to overall event assessment based on current information ❑ Provide input to a review of the event classification ❑ Actual operational outcomes Vs EMT response priorities / actions / objectives ❑ Ensure implementation of Marine Strategy ❑ Ensure implementation of Shoreline Strategy ❑ Ensure implementation of Waste Management Strategy ❑ Coordinate aerial operation ❑ Built Operations Group as required, with Marine Coordinator, Shoreline Coordinator, Waste Management Coordinator and possibly with Aviation Coordinator and Wildlife Coordinator) **Phase 1:** ❑ Recognise and maintain response priorities (People, Environment, Assets, Reputation and Livelihood) ❑ Attend first and subsequent EMT meetings ❑ Report on immediate response actions taken and outcomes including current status ❑ Ensure all field staff are briefed using SMEACS format ❑ **Arial Surveillance** Arrange with logistics for either a fixed wing aircraft or helicopter (as required) ❑ Have an aircraft perform Ariel Surveillance with an observer ❑ If aircraft is required for dispersant spraying, a separate aircraft will need to be sources – task logistics **Phase 2:** ❑ Obtain regular updates from personnel within the Operations group (if any) ❑ Oversee completion of tasks ❑ Report key outcomes reported to the EMT Leader ❑ Consider shift handover for extended responses – including for support personnel ❑ Log of events – maintain and record your decisions, actions, updates and contacts **Concluding Actions** ❑ When notified by EMT Leader of termination of response, inform all (if any) Operations staff ❑ Identify and complete all outstanding actions and obligations ❑ Participate in event debriefs as necessary ❑ Contribute to implementation of the event demobilisation plan (with EMT Logistics) ❑ Provide all log sheets and written records / correspondence to EMT Planning

Appendix B Spill Equipment and Resources (Current as of August 2020)

B. 1. Source Control Equipment – Well Control

A detailed description of available source control equipment and resources including deployment timeframes is detailed within the Beach Offshore Source Control Contingency Plan (SCCP) and the Otway and Bass RWP (T-5100-35-MP-005). A summary of these resources is provided below.

B. 1. 1 Well Control Specialists

Access to a range of source control equipment including equipment and personnel is available through 3rd party contracts with:

- Boots and Coots (Halliburton): https://www.halliburton.com/en-US/ps/project-management/well-control-prevention/well-control-prevention-services.html
- Cudd Well Control: http://www.cuddwellcontrol.com/

Contact details for these well control specialists are provided in Appendix A.

B. 1. 2 Drill Rig

The Bass Basin is considered a remote location and therefore likely to have an impact on the time taken for a suitable rig to be mobilised to the relief well location. This timeframe has been built into the RWP. Rig broker reports are used to monitor the rig market on a monthly basis and if required, assist in sourcing and contracting a suitable drill rig. The rig broker can be contracted to identify and contract a suitably specified rig (including Australian Safety Case status) within 14 days. A drill rig mobilised from the North West Shelf or Singapore is likely to take 35 days. These periods have been factored into the relief well schedule within the RWP.

Drill rig selection for relief well drilling will be based on the following:

- Rating of well control equipment: Rigs considered shall have equipment rated to at least 10,000 psi to perform the required well kill and pumping capacity to meet the well kill requirements.
- Water depth: Rig being considered for relief well drilling must be rated for the water depth of 60 m – 105 m.
- Seabed conditions.

B. 1. 3 Casing and Consumables

A detailed description of casing and consumable requirements based upon relief well design is detailed in the RWP.

B. 2. Maintenance Vessels & Vessels of Opportunity

Beach has contracts in place to support its Victorian offshore vessel requirements.

Contracts for BassGas operations are in place with a number of service providers that have gone through the Beach contracts and procurement process.

Over time, vessels and operating companies change in the region. Beach has a procurement process, contractor management process and contracting management system that is implemented prior to engaging vessels.

Any vessels used by Beach must carry a vessel SOPEP and Level 1 spill equipment on-board appropriate to the nature and scale of the vessel. Vessel crew must be fully trained and exercised in the application of the SOPEP.

Beach receives a monthly update of available vessels under an existing arrangement with a Vessel Broker. The availability and location of vessels capable of deploying the capping stack equipment, if suitable for the specific site, will be confirmed prior to spud of a relief well.

The implementation of the OSMP requires vessel support, however these vessels do not need to meet the technical specifications of tug support vessel required for the drill rig during relief well drilling operations, therefore alternate vessels can be used for these operations. Also, much of the monitoring program will likely be undertaken in nearshore environments where larger vessels would be unsuitable.

B. 3. Fixed Wing Aviation Support

Beach may call upon fixed wing aircraft for aerial surveillance in the event of a Level 2 or Level 3 spill. The need for this service will be determined by the EMT Leader during the incident response and as per this OPEP.

Beach will engage fixed wing aircraft through their preferred supplier Adagold Aviation Pty Ltd who will act as an aviation broker and engage the most appropriate aircraft available.

Beach will supply the aviation provider with the relevant flight pattern and log sheet for the surveillance and any additional trained oil spill observers via arrangements with AMOSC.

B. 4. Helicopter Support

During an incident response, Beach may call upon helicopter services to undertake aerial surveillance assistance or transport personnel in an event of a Level 2 or 3 spill, with the requirement determined by the EMT Leader at the time of the incident.

Bristows is the current contractor for the provision of helicopter services for Beach's offshore activities. At least one helicopter will be available for use by Beach during a spill response. A helicopter will be located at either Tooradin (the existing base for BassGas operations) or Warrnambool.

When drilling projects are in progress in Bass Strait there may also be other Bristows helicopters located at Essendon and Warrnambool (depending on the drilling location). Beach and Bristows have a working arrangement for this service and tests the call out process as part of its emergency response test plan and schedule.

Beach will supply the helicopter provider with the relevant flight pattern and log sheet for the surveillance and trained oil spill observers via arrangements with AMOSC.

B. 5. Oiled Wildlife Response

Under the NatPlan, VicPlan and TasPlan, the response to oiled wildlife from a vessel spill where a government agency is the Control Agency is covered in terms of responsibilities and equipment.

In Victoria, DELWP is the lead agency for wildlife impacted by marine pollution. The response procedures are defined in the Wildlife Response Plan for Marine Pollution Emergencies. This plan is incorporated as part of VicPlan.

The Tasmanian WildPlan is administered by the Resource Management and Conservation Division of DPIPWE and outlines priorities and procedures for the rescue and rehabilitation of oiled wildlife.

Oiled wildlife kits are available through AMOSC, the NatPlan and state agencies. DELWP has a number of first strike kits as well as arrangements in place for triage and rehabilitation of small oiled seabirds. Wildlife rescue kits are held at the Hobart and Launceston DPIPWE offices.

AMOSC also has wildlife equipment that can be mobilised directly by Beach in the event of a spill where there is a likelihood of oiled wildlife requiring treatment. However, it is noted that the remoteness and typically rough sea

conditions of Bass Strait and the logistic constraints associated with finding and collecting oiled wildlife at sea will limit the feasibility of an offshore OWR.

Advice will be sought from AMOSC and regulatory agencies to guide any decisions regarding mounting an OWR based on the risks posed by the spill and safety and feasibility of a response.

B. 6. Government Resources

B. 6. 1 Australian Maritime Safety Authority

AMSA administers the NatPlan, which requires each State and Territory to produce its own contingency plans to support the national plan. If a spill occurs in Victorian or Tasmanian state waters, the VicPlan or TasPlan is activated. If the spill is beyond the resources of the state agencies, then the additional resources can be sourced through agreements in the NatPlan for a marine pollution response.

B. 6. 2 Victorian DJPR EMB

In the event of an MDO spill from a supply vessel near shore, the equipment within the respective port region will be utilised as per the VicPlan through the Victorian DJPR (EMB).

In an event of a Level 2 or 3 incident, the Victorian DJPR may, as per VicPlan, provide the following assistance as required:

- Provision of vessels and support to CFA/MFB for chemical spills in State Waters.
- Coordinate the supply of State equipment and personnel resources in support of the IMT.
- Coordinate provision of Victorian equipment and personnel for any interstate or Commonwealth response.

The Victorian DJPR (EMB) is updated with Beach's program changes as part of its consultation program and shall be provided a copy of the accepted OPEP.

B. 6. 3 Tasmanian DPIPWE

In the event of a spill from a vessel near shore, the equipment within the respective port will be utilised as per the TasPlan through DPIPWE. This equipment may also be available to support a Level 2 or 3 spill where Beach is the Control Agency. Stockpiles of Level 1 equipment are located at Burnie, Devonport, Bell Bay and Hobart Ports and a current list of equipment is available from DPIPWE.

B. 7. AMOSC Resources

AMOSC is supported by a core group of key personnel from oil industry members companies who are trained and regularly exercised in spill response. When called upon under arrangements established in AMOSPlan, Core Group Members are able to respond to an incident at short notice and provide a high level of expertise in leading teams on the ground responding to an incident. Core Group availability is updated monthly and can be obtained through AMOSC as required.

AMOSC also holds large stockpiles of oil spill response equipment designed for both coastal and offshore use and has established contractual arrangements and processes for the mobilisation of equipment and personnel to assist with a spill anywhere in Australian waters. A list of the AMSOC available equipment can be obtained through AMOSC or the members-login section of their website.

AMOSC assistance may be sought in the event of a Level 2 or 3 spill. Beach's EMT Leader shall determine when and whether AMOSC notification and assistance will be required.

Under AMOSPlan, should the spill response require equipment or personnel from another company, the request for assistance is made directly by Beach to that company. AMOSC can assist in this dialogue through the Mutual Aid Policy,

and Beach will contact AMOSC to activate the relevant Principal & Agency Agreement (of the lending company) and Mutual Aid Policy if borrowing resources.

AMOSC headquarters and their major equipment base are located in Geelong, adjacent to the Port of Geelong Corio Quay Supply base.

Beach ensures that AMSOC has a copy of the accepted BassGas Operations OPEP on file.

B. 8. Environmental Monitoring Resources

Beach has a Master Service Agreement in place with several recognised specialist environmental consultants capable of undertaking scientific monitoring. Beach will undertake audits/desktop reviews of the capabilities of these consultants to ensure that they are capable of meeting the requirements of this OPEP.

Annual reviews of contracts and service providers are completed by Beach to confirm they still meet the required standards and are able to provide the contracted services. If any existing contractors are deemed unsuitable, an equivalent service provider will be appointed. Should it be required (as determined by EMT Leader and EMT Environment), the environmental consultant will undertake scientific sampling and analysis to fulfil the requirements of this monitoring program as detailed in the OSMP.

Appendix C Templates and Forms

Refer to the AMSA website for the latest forms:

- https://www.amsa.gov.au/
- https://www.amsa.gov.au/forms-and-publications/environment/
- https://www.amsa.gov.au/forms-and-publications/environment/publications/NP-Reports/index.asp

Forms from AMSA include:

- Marine Pollution Report (POLREP) – Appendix C.1.
- Marine Pollution Situation Report (SITREP) – Appendix C.2.

C. 1. Marine Pollution Report (POLREP)

Online via https://amsa-forms.nogginoca.com/public/ or manual below:

Marine Pollution Report (POLREP)

NOTE: Incidents to be reported are outlined on page 3

Send completed form to: **AMSA Environment Protection**
Fax: **(02) 6230 6868** Email: **rccaus@amsa.gov.au**

C.C.

Date of incident

Time of incident

Location name / Description

Incident coordinates

Format of coordinates used (select one)	Latitude of spill	Longitude of spill
Degrees & decimal degrees	. °	. °
Degrees, minutes & decimal minutes	° ' . '	° ' . '
Degrees, minutes & seconds	° ' . "	° ' . "

Description of incident

POLLUTION SOURCE

☐ Vessel ☐ Land ☐ Other ☐ Unknown — Details

Vessel Details: Type (if known): ☐ Tanker ☐ Container ☐ Bulk Cargo ☐ Fishing ☐ Defence ☐ Recreational

☐ Other vessel type (specify): _____

Vessel name | Flag state / callsign | Australian vessel? ☐ Yes ☐ No

POLLUTANT

☐ **Oil** → ☐ Bilge ☐ Diesel bunker ☐ HFO Bunker ☐ Crude ☐ Unknown
☐ Other — Specify

☐ **Chemical** → Name | MARPOL Cat. / UN Nos

☐ **Garbage** →
☐ **Packaged** →
☐ **Sewage** →
☐ **Other** →
Details / description

EXTENT

Size of spill (length & width in metres)

Amount of pollutant, if known (litres)

ADDITIONAL INFORMATION

Has the discharged stopped? ☐ Yes ☐ No ☐ Unknown
Response action undertaken? ☐ Yes ☐ No If yes, provide details below, please include any environmental impact

Weather conditions at site

☐ Photos taken ▶	Details	Held by
☐ Video taken ▶	Details	Held by
☐ Samples taken ▶	Description	Held by
☐ Items retrieved ▶	Description	Held by

Original report source

Name	Position	Phone

Combat agency

Statutory agency

Equipment used
☐ AMSA ☐ State / NT

Possible further action
☐ Legal ☐ AMSA assistance ☐ Other

SENDER DETAILS

Name	Agency	Date
Phone	Fax	Email

PRIVACY STATEMENT

The Australian Maritime Safety Authority (AMSA) is collecting the information on this form to enable it to carry out its role as managing agency of the National Plan to Combat Pollution of the Sea by Oil and other Noxious and Hazardous Substances.

AMSA may give some or all of this information to other government bodies, non-government organisations who have responsibilities under the National Plan, and law enforcement agencies.

SUMMARY OF INCIDENTS TO BE REPORTED

All slicks, including deck washings, that can be seen trailing a vessel should be reported. The type of substance contained in the slick may not be able to be determined until further investigation has been undertaken by enforcement agencies.

REPORTABLE	NON-REPORTABLE
Oil - All slicks trailing from a vessel. All spills in the marine environment (notwithstanding the size or amount of oil or sheen). All spills where National Plan equipment is used in a response. *Note: If oil or sheen is "visible" then it is an illegal discharge MARPOL permitted oily discharges are at 15 parts of oil to one million parts of water (15ppm). Oil discharges at sea cannot be visually observed until at least 50ppm and even that may not be readily discernable depending upon the observation platform, sea state, weather conditions etc.*	• Coral spawning. • Algal bloom. • Oil spills specifically known to be from land sources (eg drains, road tanker accidents) and where there is no response using National Plan equipment or resources used. • Exploration/production associated discharges where there is no response and National Plan equipment or resources used. (these are reportable to the relevant authority eg: Mines Department or Department of Science Industry and Resources).
Chemicals – All sightings of slicks/discolourations trailing vessels. All odorous discharges from a vessel.	
Harmful Packaged Substances - All packages associated with a vessel.	
Sewage – All slicks seen trailing from a vessel.	
Garbage – All sightings of garbage being disposed from a vessel. Any type of garbage found that can be specifically tied to a specific vessel such as garbage with printing showing a vessel name (eg Quarantine bonded plastic bags with identifier tag).	• Dumping at sea that requires a permit (EPA or EA) • Dumped dredge spoil. • Floating logs.

C. 2. Marine Pollution Situation Report (SITREP)

Marine Pollution Situation Report (SITREP)

Incident name / Description

Date | Time | Sitrep No

Priority ☐ Urgent ☐ Immediate

Final Sitrep? ☐ Yes ☐ No Next Sitrep on: .....

Description of incident and impact

Overall weather conditions

Summary of response actions to date

Current Strategies

Summary of Resources available/ deployed

Other information

SITREP prepared by

Name	Agency	Role
Phone	Fax	Email

Attachments | No of pages attached

C. 3. Oil Spill Incident Report – Level 1 Spill

Date:		
Spill observer:		
Report time:		
Reported to:		
Location of the spill:		
Material spilled:		
Estimate of spill quantity and description of appearance of the slick:		
Particulars of damage caused as a result:		
Apparent source/cause of the spill:		
Action taken to control spill:		
Has spill been contained? (Tick✓) ❑ **Yes**❑ **No**		
Comments:		
Location	**Reported by**	**Reported to**
Time	**Date**	**Phone No**
Are additional resources required to disperse/contain spill:❑**Yes**❑**No**		

C. 4. Oil Spill Incident Report – Level 2 or 3 Spill

Date:	Report time:	
Spill observer:	Reported to:	
Time spill occurred:	Date spill occurred:	
Material spilled:	API gravity:	
Apparent source/cause:		
Location of spill:	Latitude:	Longitude:
Is spill continuing?	Yes	No
If yes, estimated rate of release:	cubic metres/day:	bbl/day:
Volume of discharge: a) estimated	cubic metres:	bbls:
Volume of discharge: b) known	cubic metres:	bbls:
Size of spill: (plot on chart)		
Rate and direction of slick movement:		
Oil slick type:	Continuous:	Windows:
Estimated average thickness:		
Estimated time to nearest threatened resource:	(hrs)	
Meteorological and Ocean Data		
Temperature:	Air:o C	Water:o C
Wind speed:	knots	Direction:
Precipitation:		
Forecast:		
Oceanographic Data	Tide state:	Direction:
	Currents:	Speed:
Direction:Sea state:	1 2 3 4 5 6+	
Average wave height:	metres	
Period:	seconds	
Comments:		

C. 5. OSTM Request Form (RPS APASA)

OIL SPILL TRAJECTORY MODELLING REQUEST	Email completed form to RPS APASA response staff response@apasa.com.au After sending this request, phone Duty Officer on telephone number provided.

Priority of Request: ☐ **Urgent** ☐ **Exercise** Date and Time of Request:

Incident Name	
Name of requesting person and position in response	Contact telephone number
Email address for model output (preferred method)	Fax number for receipt of model output

Surface or Subsurface spill?	If subsurface spill, describe the spill source.
Surface ☐ Subsurface ☐ Depth of spill (m)	☐ Low Turbulence (eg. Low Pressure Pipeline Leak) ☐ Medium Turbulence (eg. Intermediate Pressure Pipeline Leak) ☐ High Turbulence (eg. Well Blowout under pressure, or ruptured pipeline under pressure)

Spill Start Date			Spill start time (use 24 hour clock, state time zone – GMT or Local)	Requested Simulation Length (hrs)
Day	Month	Year		

Oil Name:	Oil Type: *Bunker C, Diesel Fuel, Crude, Condensate*

Spill location (select one format)	Latitude of spill (N)	Longitude of spill (E)
Degrees, minutes & seconds	° ′ ″	° ′ ″
Degrees, minutes & decimal minutes	° . ′	° . ′
Degrees, minutes & decimal minutes	. °	. °
Easting & Northing (Zone)	S/N	E/W

Instantaneous spill ☐	Amount	(select one)	☐ Tonnes	☐ Cubic Metres	☐ Litres	☐ Barrels		
Continuous spill ☐	Duration (hours)	Amount (per hour)	☐ Tonnes	☐ Cubic Metres	☐ Litres	☐ Barrels		

Present wind speed and directions, sea states and water temperatures (°C) at the site (if known):

NOTES (describe special details of the incident, special concerns, doubts about information etc.)

C. 6. Stand down of EMT Checklist

STAND DOWN CHECKLIST / ACTIONS	
KEY ACTIONS:	
The EMT Leader is responsible for assigning personnel to commence the collation of emergency data prior to the commencement of the investigation process. On-going resources for incident control and post incident recovery (if required) should also be considered by the EMT Leader, including current/potential business continuity aspects (per Beach Energy's Business Continuity Plan).	
Final information release and/or notification should occur to some, or all, of the following:	
• All Site ERT and support personnel	• All relevant EMT and support personnel
• Contractor Management	• Regulatory authorities
• Emergency Services	• Employees (off and on duty)
• Employees families/NOK	• Third Parties
• Suppliers and/or contractors	• Joint Venture Partners and customers
• Media	• Government support agencies
• Mutual aid	• Environmental agencies
• Trade unions	• Local community and pressure groups
Initial 'hot' debrief of all personnel to include:	
• A short report by all persons of the history of the incident and their responses; • Outstanding problems with health, safety and environment; • Recovery of production; • Technical information regarding Beach's ongoing operations; and • Emotional responses to what has happened.	
Then:	
• Close additional security arrangements • Finalise additional catering and other services • Continue counselling for those involved in the incident • Compile and file all documents relating to the response • Ensure that all log entries are signed and that all call records and Sit Rep's are signed off by the person who prepared the document • Arrange for full incident investigation and analysis • Approve/comment on incident debriefing reports and recommended actions	
Carry out an After-Action Review to ascertain effectiveness of:	
Incident callout	**Site ERT functions**
• Overall emergency response	• Interface with other EMT members
Recommend revision of Emergency Plans as required.	
Schedule time for After-Action Review and if required, full debrief on the incident.	

Appendix D Bonn Agreement Oil Appearance Code

Code	Description / Appearance	Layer Thickness Interval (Microns)	Litres per km^2	Typical Appearance
1	Sheen (silver / grey)	0.04-0.30	40-300	
2	Rainbow	0.30-5.0	300-5,000	
3	Metallic	5.0-50	5,000-50,000	
4	Discontinuous True Oil Colour	50-200	50,000-200,000	
5	Continuous True Oil Colour	>200	>200,000	

Appendix E Aerial Surveillance Observer Log – Oil Spill

Survey Details											
Date		Start time		End time		Observers					
Incident						Area of survey					
Aircraft Type		Call sign				Average altitude		Remote sensing used			
Weather Conditions											
Wind speed (knots)						Wind direction					
Cloud base (feet)						Visibility (Nm)					
Time high water						Current direction					
Time low water						Current speed (Nm)					
Slick Details											
Slick grid parameters by lat/long						Slick grid parameters by air speed			Slick grid dimensions		
Length Axis		Width Axis				Length Axis		Width Axis	Length	Nm	
Start Latitude		Start Latitude				Time (seconds)		Time (seconds)	Width	Nm	
Start Longitude		Start Longitude							Length	km	
End Latitude		End Latitude				Air Speed (Knots)		Air Speed (Knots)	Width	km	
End Longitude		End Longitude							Total Grid Area	km^2	

Code	Colour	%age cover observed		Total Grid Area		Area per oil code		Factor	Oil volume	
1	Silver		%		km^2		km^2	40 – 300L/km^2		L
2	Rainbow		%		km^2		km^2	300 – 5,000L/km^2		L
3	Metallic		%		km^2		km^2	5,000 – 50,000L/km^2		L
4	Discontinuous true oil colour		%		km^2		km^2	50,000 – 200,000L/km^2		L
5	Continuous true oil colour		%		km^2		km^2	>200,000L/km^2		L
Non shaded areas to be completed on flight. Shaded areas completed on return.								TOTAL		L

Appendix F Aerial Surveillance Observer Log – Marine Mammals

Date :	Survey #
Aircraft/Pilot:	Observers :
Blue Whale Study Contact:	Enquest Contact:
Survey Start Time:	Survey Finish Time:

Event#	Waypoint #	Event time [hh:mm]	Event Position [dd.mmm]	Description of sighting and marine mammal	No. of Marine Mammal(s)	Sterling Position [dd.mmm]
			. °S . °E			. °S . °E
			. °S . °E			. °S . °E
			. °S . °E			. °S . °E
			. °S . °E			. °S . °E
			. °S . °E			. °S . °E

Appendix G Shoreline Assessment

General Information			
Date	Dd/mm/yy:	Survey Time	From:To:
Weather	Sun / Cloud / Fog / Rain / Windy		
Location	Description:	LAT: LONG:	
Total Length	m		

Survey Team	
Name	Organisation

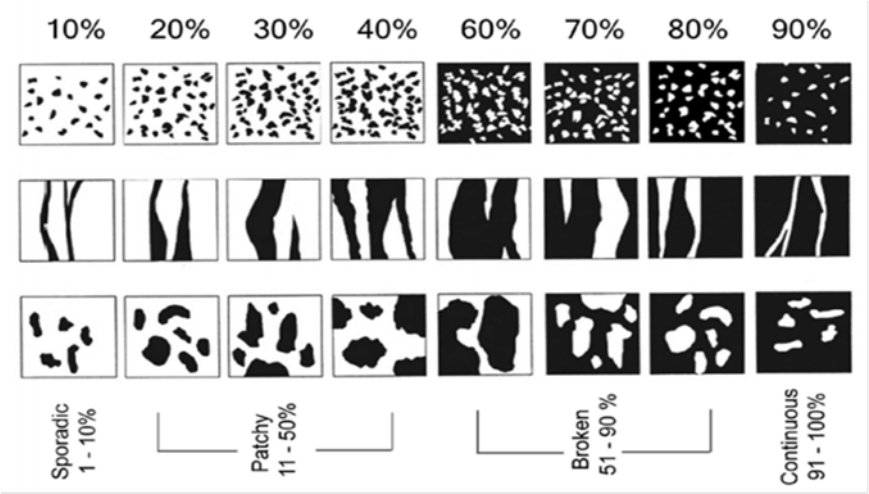
Shoreline Type			
Legend: P = Primary S = Secondary			
	Exposed Bedrock Cliff and Seawalls		Intertidal Mud/ Sand Flats
	Exposed Bedrock Platform or Reef		Mangroves
	Sheltered Bedrock Platform or Reef		Salt marshes
	Exposed Boulder/ Cobble and Rip rap		Seagrass (Shallow/Intertidal)
	Sheltered Boulder/ Cobble and Rip rap		Shallow/Intertidal Corals
	Pebble Beaches		Natural Inlets/ Channels
	Sand Beaches		Marinas/ Artificial Waterways

Operational Features	
Debris Present: Yes /No Amount: _____ m^3	
Direct Backshore Access: Yes / No	Access Restrictions:
Backshore cliff: Yes / No Height _____m	Suitable Lay down Area:Yes / No

Surface Oiling Conditions

Place an X in the appropriate box

Zone #	Tidal Zone				Oil Cover			Oil Thickness					Oil Character					
	L	M	U	S	Length	Width	Cover (%)	PO	CV	CT	ST	FL	FR	MS	TB	TP	SR	AP

Legend:	
Tidal Zone L = Lower Tidal M = Middle Tidal U = Upper Tidal S = Super Tidal	
Surface Oiling Thickness PO = Pooled Oil (fresh oil or mousse > 1 cm thick) CV = Cover (oil or mousse from >0.1 cm to <1 cm on any surface) CT = Coat (visible oil <0.1 cm, which can be scraped off with fingernail) ST = Stain (visible oil, which cannot be scraped off with fingernail) FL = Film (transparent or iridescent sheen or oily film)	**Surface Oiling Character** FR = Fresh Oil (unweathered, liquid oil) MS = Mousse (emulsified oil occurring over broad areas) TB = Tar balls (discrete accumulations of oil <10 cm in diameter) TP = Tar Patties (highly weathered oil, of tarry, nearly solid consistency) SR = Surface Oil Residue (non-cohesive, oiled surface sediments) AP = Asphalt Pavements (cohesive, heavily oiled surface sediments)
Distribution Guide (% Oil Cover)  	
Sketch	**Date:**

Checklist: (Place an X once completed)			
Oiled Area		Local Features	
Orientation (North)		Access	
Scale		Survey Area (Width/Length)	

End of document