BLACKTIP OPERATIONS
OIL POLLUTION EMERGENCY PLAN

IN THE EVENT OF AN OIL SPILL GO DIRECTLY TO SECTION 1 (FIRST STRIKE PLAN) AND COMPLETE THE NOTIFICATIONS AND RELEVANT ACTIONS.

ADDITIONAL SUPPORTING INFORMATION THAT MAY INFORM THE RESPONSE IS PRESENTED IN SECTIONS 2 – 8.

Validity Status / Rev. Number / Revision index	Date	Description	Prepared by	Checked by	Approved by	Contractor Approval	Company Approval
PR-OP 14	30/09/21	Final Issue	TLU	KCO	KCO		
PR-OP 13	23/07/20	Final Issue	TLU	JCO	KCO		
PR-OP 12	06/12/19	Final Issue	TLU	TLU	KCO		
PR-OP 11	19/09/19	Final Issue	Advisian	TLU	KCO		
PR-OP 10	27/06/19	Final Issue	Advisian	TLU	TCO		
PR-OP 09	26/02/19	Final Issue	Advisian	TLU	JCO		
PR-OP 08	25/02/19	Issued for Comment	Advisian				
PR-OP 07	14/01/14	Re-Issued for Use	MWR	RPH	MMCC		
PR-OP 06	09/08/13	Re-Issued for Use	RPH	MMCC	RRA		

eni australia	Project name **Blacktip Operations**	Company identification 000036_DV_PR.HSE.0388.000 Job N. ___	
Advisian WorleyParsons Group		Contractor identification Contract ___	
(Vendor logo and business name)		Vendor identification …….. Order N…….	
Facility Name Blacktip Operations	Location	Scale 1:1	Total no. of pages 1 / 285
Document Title **BLACKTIP OPERATIONS OIL POLLUTION EMERGENCY PLAN**		Supersedes N…… Superseded by N…….. Plant Area	Plant Unit

REVISION HISTORY

Rev.	Date	Nr. of sheets	Description
P00	31/1/08	-	Issued for internal review
A01	18/3/08	-	Issued for use
A02	31/5/08	-	Issued for use
A03	08/05/09	-	Issued for use – update for operations
A04	03/07/09	280	Issued for use – update for operations
05	11/04/13	92	Reviewed and updated; submitted (as an appendix in the EP Rev 03) to NOPSEMA for Approval **NB: Document Number Change**
06	09/08/13	92	Re-Issued for Use
07	14/01/14	284	Re-Issued for Use
08	25/02/19	158	Issued for Comment 5-year revision and updated to include P3 drilling activities Re-titled Oil Pollution Emergency Plan.
09	26/02/19	158	Final Issue
10	27/06/19	250	Final Issue Issued to NOPSEMA for approval.
11	19/09/19	252	Final Issue Issued to NOPSEMA for approval.
12	06/12/19	264	Final Issue Updated for Request for Further Information (Ref. 4796 A696638, 19 September 2019) **Approved by NOPSEMA on 14 November 2019**
13	23/07/20	285	Final Issue Updated for OSRL review and comments received 28 May 2020 Section 8.4 updated to incorporate arrangements in the NTOWRP Government agency names updated throughout.
14	30/09/21	285	Final Issue Out of date service provider contract numbers removed.

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

ACRONYMS AND DEFINITIONS

Acronym	Definition
ADIOS	Automated Data Inquiry for Oil Spills
ALARP	As Low As Reasonably Practicable
AMOSC	Australia Marine Oil Spill Centre
AMOSPlan	Australian Marine Oil Spill Centre Plan
AMSA	Australian Maritime Safety Authority (Commonwealth)
ANZECC	Australian and New Zealand Environment Conservation Council
API	American Petroleum Institute
Bbl	Barrels
BAOAC	Bonn Agreement Oil Appearance Code
CEP	Condensate Export Pipeline
CGR	Condensate to Gas Ratio
CMT	Crisis Management Team
DAWE	Department of Agriculture, Water and the Environment (Commonwealth)
DBCA	Department of Biodiversity, Conservation and Attractions (Western Australia)
DWER	Department of Water and Environmental Regulations (Western Australia)
DFES	Department of Fire and Emergency Services (Western Australia)
DIPL	Department of Infrastructure, Planning and Logistics (Northern Territory)
DMIRS	Department of Mines, Industry Regulation and Safety (Western Australia)
DNP	Director of National Parks (Commonwealth)
DPIR	Department of Primary Industry and Resources (Northern Territory)
DoEE	Department of Environment and Energy (Commonwealth) (now Department of Agriculture, Water and the Environment)
DoT	Department of Transport (Western Australia)
DPIRD	Department of Primary Industries and Regional Development (Western Australia)
DTSC	Department of Tourism, Sport and Culture (Northern Territory)
EAL	Eni Australia Limited
Eni HQ	Eni Spa Headquarters, Milan

Acronym	Definition
EP	Environment Plan
EPO	Environment Performance Outcome
EPS	Environment Performance Standard
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999*
ERT	Emergency Response Team
FOB	Forward Operating Base
GEP	Gas Export Pipeline
GES	Gas Export System
HMA	Hazard Management Agency
HR	Human resources
HSE	Health, Safety and Environment
IAP	Incident Action Plan
ICM	Incident and Crisis Management
IMO	International Maritime Organisation
IMP	Incident Management Plan
IMT	Incident Management Team
IMTL	Incident Management Team Leader
ITOPF	The International Tanker Owners Pollution Federation
JSCC	Joint Strategic Coordination Committee
MD	Managing Director
MDO	Marine Diesel Oil
MGO	Marine Gas Oil
MEE	Western Australia State Hazard Plan for Maritime Environmental Emergencies
MEER	Marine Environmental Emergency Response
MEECC	Maritime Environmental Emergency Co-ordination Centre
MC	Measurement Criteria
MODU	Mobile Offshore Drilling Unit
MOP	Marine Oil Pollution
MoU	Memorandum of Understanding
N/A	Not applicable
NEBA	Net Environmental Benefit Analysis
NatPlan	National Plan for Maritime Environmental Emergencies

Acronym	Definition
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NOPTA	National Offshore Petroleum Titles Administrator
NT	Northern Territory
NT EPA	Northern Territory Environment Protection Authority
NTOWRP	Northern Territory Oiled Wildlife Response Plan
OEPA	Office of the Environment Protection Authority (OEPA)
OIW	Oil in water
OPEP	Oil Pollution Emergency Plan
OPGGS Act	*Offshore Petroleum and Greenhouse Gas Storage Act 2006*
OPGGS (E) Regulations	Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations
OSC	On Scene Commander
OSRA	Oil Spill Response Atlas
OSRL	Oil Spill Response Limited
OSMP	Operational and Scientific Monitoring Program
POLREP	Marine Pollution Report
POS	Production Operations Supervisor
PPE	Personal Protection Equipment
PWC	NT Parks and Wildlife Commission
QA/QC	Quality Assurance / Quality Control
ROVs	Remotely Operated Vehicles
SAR	Synthetic Aperture Radar
SFRT	Subsea First Response Toolkit
SHP-HAZMAT	State Hazard Plan for Hazardous Materials
SITREP	Marine Pollution Situation Report
SMEERC	State Maritime Environmental Emergency Coordinator
SMP	Scientific Monitoring Program
SOPEP	Shipboard Oil Pollution Emergency Plans
SPM	Single Point Mooring
VOCs	Volatile Organic Compounds
WA	Western Australia
WAOWRP	Western Australia Oiled Wildlife Response Plan

Acronym	Definition
WC	Wildlife Coordinator
WHP	Wellhead Platform
WMC	Waste Management Coordinator
WWC	Wild Well Control
WCCS	Worst Case Credible Scenario
YGP	Yelcherr Gas Plant
ZPI	Zone of Potential Impact

1. FIRST STRIKE PLAN

QUICK REFERENCE SECTION - OIL SPILL RESPONSE

OIL SPILL RESPONSE PRIORITIES

Response priorities in the event of an oil spill are:

- PEOPLE
- ENVIRONMENT
- ASSETS
- REPUTATION.

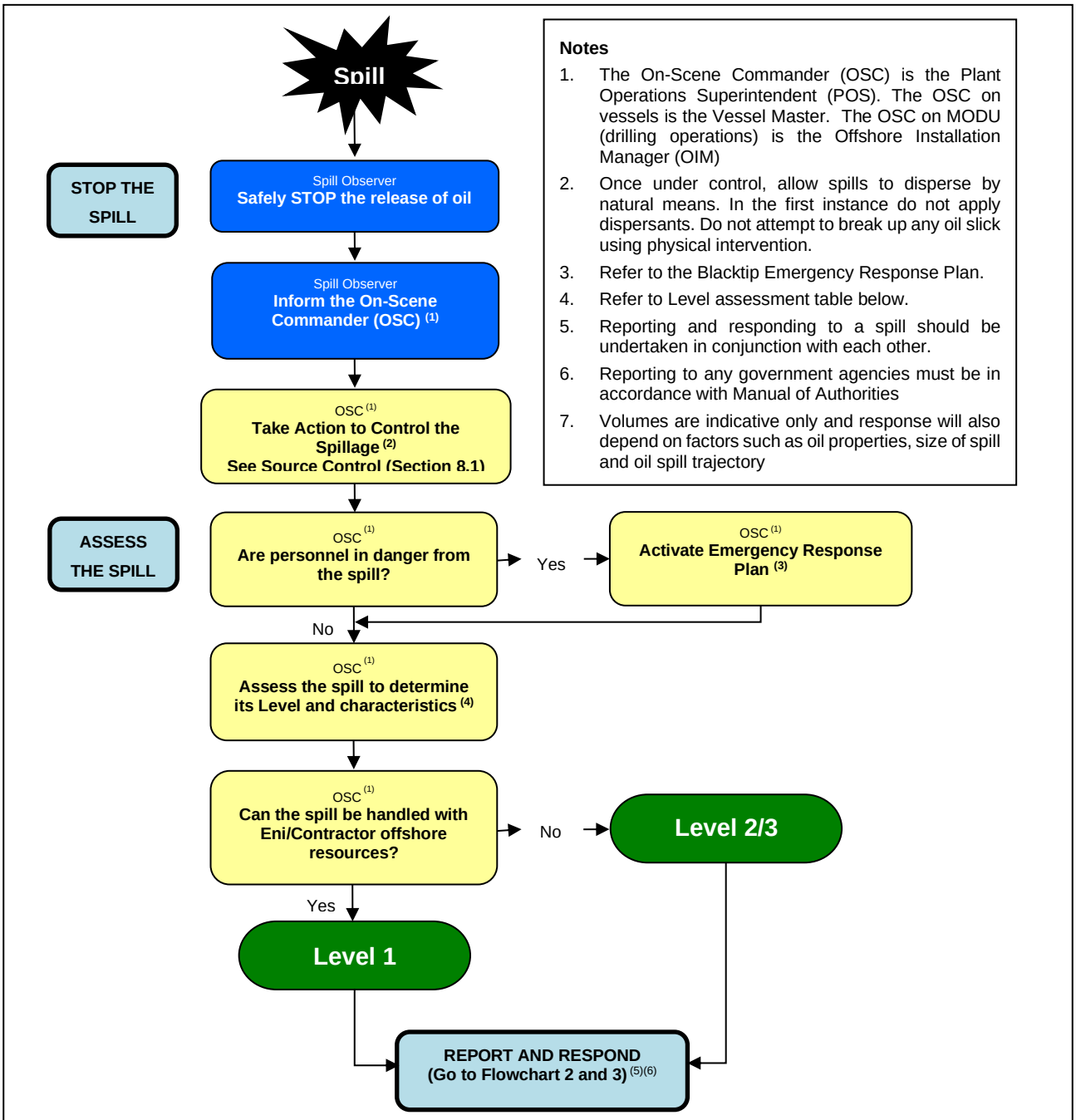
WHAT TO DO IF AN OIL SPILL OCCURS OFFSHORE?

1 Stop the Spill (Flowchart 1).
2 Assess the Spill (Flowchart 1).
3 Report the Spill (Flowchart 2).
4 Monitor the Spill (Flowchart 3).
5 Combat the Spill (Flowchart 3).

TEN QUESTIONS

1 What is it (hydrocarbon type)?
2 Where?
3 How big (quantity/size)?
4 Is the source contained?
5 Are all personnel safe?
6 What is in the way/what could it contact?
7 How long is it until it gets there?
8 Weathering?
9 Worst credible scenario?
10 What can we do?

FLOWCHART 1 – STOP AND ASSESS THE SPILL

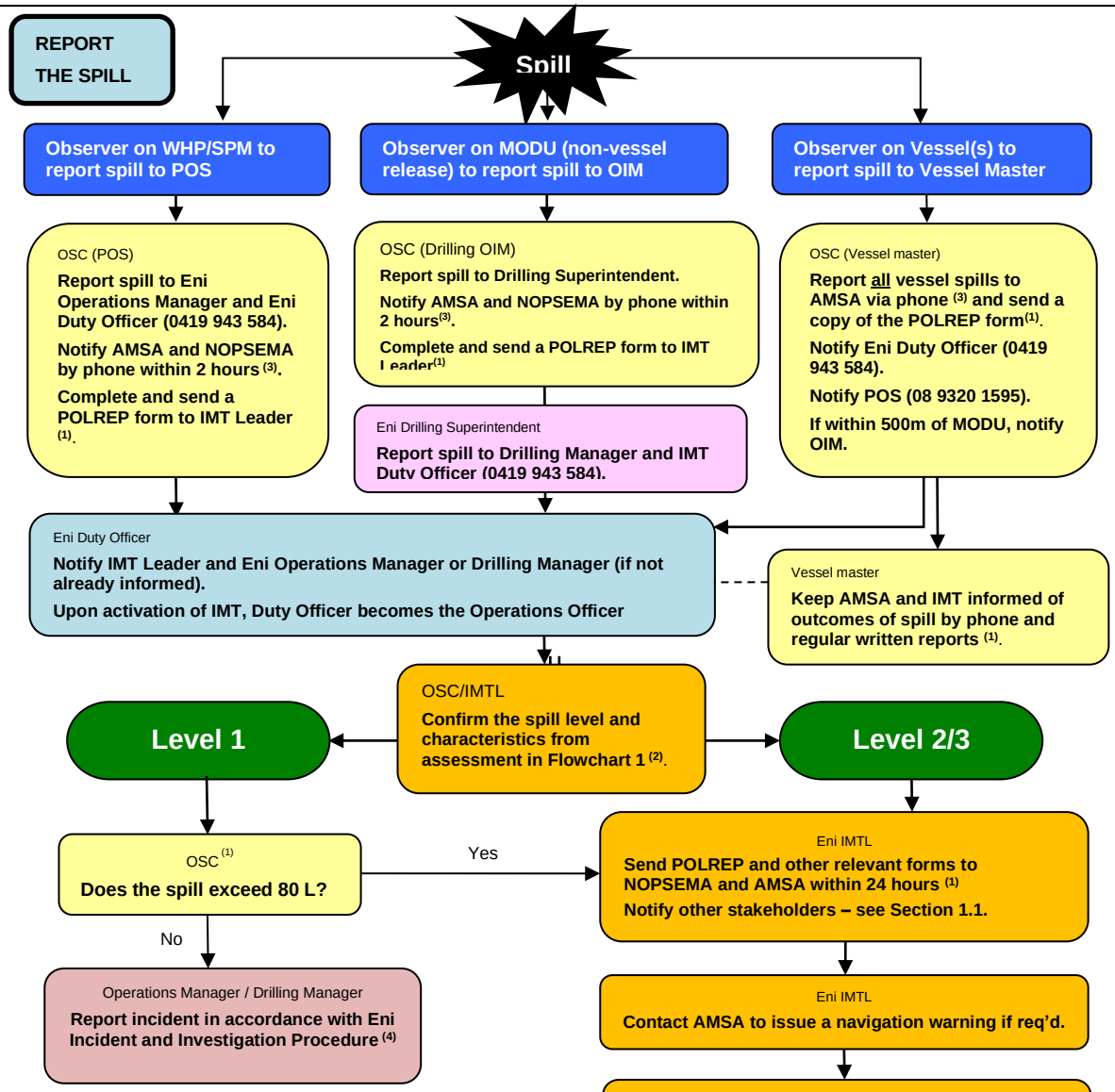


Notes

1. The On-Scene Commander (OSC) is the Plant Operations Superintendent (POS). The OSC on vessels is the Vessel Master. The OSC on MODU (drilling operations) is the Offshore Installation Manager (OIM)
2. Once under control, allow spills to disperse by natural means. In the first instance do not apply dispersants. Do not attempt to break up any oil slick using physical intervention.
3. Refer to the Blacktip Emergency Response Plan.
4. Refer to Level assessment table below.
5. Reporting and responding to a spill should be undertaken in conjunction with each other.
6. Reporting to any government agencies must be in accordance with Manual of Authorities
7. Volumes are indicative only and response will also depend on factors such as oil properties, size of spill and oil spill trajectory

	Level 1	Level 2	Level 3
Spill Size (indicative)	0–10 tonnes (6)	10–1000 tonnes (6)	>1000 tonnes (6)
Potential Environmental Harm	Low, not significant	Moderate, localised and short-term	Higher, regional or long-term

FLOWCHART 2 – REPORT THE SPILL



AGENCY REPORTING TABLE

Shows relevant agency to report to in the event of an oil spill

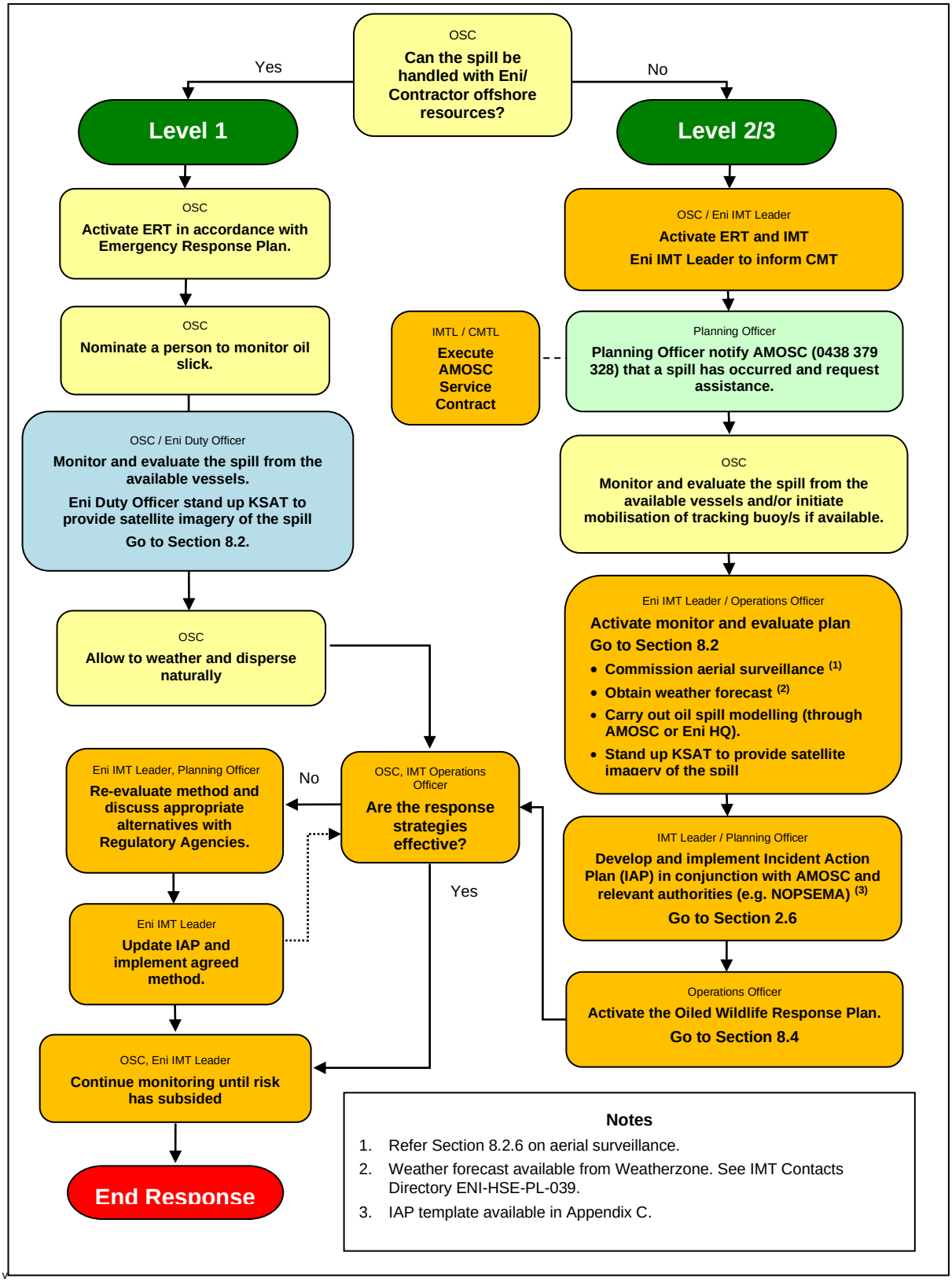
Reason to Contact	Agency to Contact	When to Contact	Contact Person	24 Hour Emergency Contact
All spills over 80 L in Cth waters	NOPSEMA	Verbally within 2 hours.	Duty Officer	(08) 6461 7090
All vessel spills if >3 nm from shore	AMSA RCC Maritime	POLREP within 24 hours	Vessel Master	1800 641 792 (02) 6230 6811

Further reporting arrangements are detailed in Section 1.1.

NOTES

1. Contact IMTL on info@eniaustralia.com.au. Reporting forms are located in Appendix A of this OPEP. Refer to the required reporting forms section in the Quick Reference section for further details. Relevant contact numbers are provided in the IMT Contact Directory (ENI-HSE-PL-039).
2. Refer to Flowchart 1 for Assessing Spills.
3. Refer to the Agency Reporting Table on the left.
4. Spills of less than 80 L are reportable internally through Eni Hazard and Incident Reporting Procedure (ENI-HSE-PR-003).
5. Reporting to any government agencies must be in accordance with Manual of Authorities.

FLOWCHART 3 – RESPONSE (MONITOR AND COMBAT)



IMMEDIATE NOTIFICATIONS			
	Blacktip Facility	**Drilling**	**Vessel spill**
Initial evaluation by OSC	Offshore Person in Charge or Plant Operations Superintendent (POS)	Drilling Offshore Installation Manager (OIM)	Vessel Master
Internal Notification	POS notifies • Duty Officer and • Operations Manager	OIM notifies Drilling Superintendent	Vessel Master informs the • POS (operations) and /or • Drilling OIM (drilling) of any vessel spills with 500m of the WHP or SPM
		Drilling Superintendent notifies Duty Officer 0419 943 584	POS or OIM notifies Duty Officer 0419 943 584
	Duty Officer notifies • IMTL and • Operations Manager	Duty Officer notifies • IMTL and • Drilling Manager	Duty Officer notifies • IMTL • Operations Manager and/or • Drilling Manager
	Spills of less than 80 L are reportable internally through Eni Hazard and Incident Reporting Procedure (ENI-HSE-PR-003).		
Completion of POLREP by OSC	POS (OSC)	Drilling OIM (OSC)	Vessel Master (OSC)
External Notification	All vessel spills to be reported to AMSA within 2 hours by the Vessel Master or Eni Duty Officer		
	Vessel Master or Drilling Manager or POS report spills over 80 L in Cth waters via phone to NOPSEMA within 2 hrs. Send POLREP and other relevant forms (Appendix A) For ongoing response in event of Level 2/3 the IMTL will send the POLREP and SITREP. See Table 1.1 for all IMT notifications.		

REQUIRED REPORTING FORMS (All reporting forms are contained within Appendix A)			
Form No.	**Form Title**	**Use**	**Submit to**
028	Marine Pollution Report (POLREP)	Primarily a "first report" used to notify Government agencies, AMOSC and Eni IMT of a spill.	• AMSA (vessel spills) • AMOSC (all spills where support is required) • NOPSEMA (spills in Commonwealth waters) • WA DoT (spills in WA waters) • NT DIPL (spills in NT waters) • Eni IMT Leader/Duty Manager See Appendix B for reporting forms and details.
029	Marine Pollution Situation Report (SITREP)	For ongoing reports. Spill response activities are reported on this form.	As for Form 028
FM0831	NOPSEMA Reportable Environmental Incident Form	A "reportable incident" is an incident associated with the activity that has caused or has the potential to cause moderate to significant environmental damage (e.g. oil spill of greater than 80 L).	NOPSEMA (within three days of incident).
FM0928	Recordable Environmental Incident Monthly Summary Report	A monthly report used to summarise any recordable incidents. A recordable incident is an incident arising from the activity that breaches a performance objective or standard in the EP and is not a reportable incident.	NOPSEMA (not later than 15 days after the end of the calendar month).

For contact details, refer to Section 1.1 Notifications or Eni IMT Emergency Contacts Directory ENI-HSE-PL-039.

1.1 Notifications

All Eni staff and contractors must report spills or observations of oil or oily substances on the sea immediately to the Plant Operations Superintendent (POS) for operations or the Offshore Installation Manager (OIM) for drilling activity. On a vessel, the observer must notify the Vessel Master, who in turn will notify the POS if within the 500 m of the WHP or SPM.

The On-Scene Commander (OSC) is appointed by default as follows:

- Vessel Activities: Vessel Master
- Blacktip Operations: Plant Operations Superintendent (POS)
- Drilling Activities: Drilling Offshore Installation Manager (OIM).

The OSC shall report spills greater than 80 litres to NOPSEMA verbally within two hours. NOPSEMA's contact number for reporting an environmental incident is (08) 6461 7090. The Operations Manager (Level 1 spill) or IMTL (Level 2/3) is responsible for written reporting to NOPSEMA and other external authorities. A written report of the event must be provided to NOPSEMA within three days. Eni shall report spills less than 80 litres to NOPSEMA within 15 days of the end of the reporting month.

All spills must be reported to AMSA, regardless of location. The OSC shall notify AMSA within two hours. AMSA's contact number for reporting any marine pollution is (02) 6230 6811 or 1800 641 792. A POLREP form (Appendix A) is required to be sent to AMSA in order to provide details of the spill. The OSC shall prepare the POLREP form.

For spills requiring, or potentially requiring external assistance (i.e. Level 2/3 spills), the Eni's IMT Leader (IMTL) is responsible for subsequent activations and notifications, which will depend on the circumstances of the spill (Table 1.1).

For the full list of contacts and contact details, refer to the IMT Emergency Contact Directory ENI-HSE-PL-039.

Table 1.1: Notifications by the IMT if activated (Level 2/3)

NOTIFICATIONS TO BE COMPLETED BY ENI'S INCIDENT MANAGEMENT TEAM			
Notification Timing	**Authority/ Company**	**Contact Number**	**Instruction**
As soon as practicable	AMOSC	+61 438 379 328 amosc@amosc.com.au	Notify AMOSC that a spill has occurred and Eni will require the stand-up of the resources and equipment consistent with the AMOSPlan.

NOTIFICATIONS TO BE COMPLETED BY ENI'S INCIDENT MANAGEMENT TEAM			
Notification Timing	**Authority/ Company**	**Contact Number**	**Instruction**
As soon as practicable	OSRL	+65 6266 1566 (Singapore) +61 8 6557 8552 (Perth)	Notify OSRL that a spill has occurred and Eni may require the stand-up of the resources and equipment.
Within 2 hours	NOPSEMA	(08) 6461 7090	Verbally notify NOPSEMA for spills >80 L. Record notification using NOPSEMA Form FM0831 'Report of an accident, dangerous occurrence or environmental indicent'..
Within 2 hours	AMSA	1800 641 792 https://amsa-forms.nogginoca.com/public/	Verbally notify AMSA Response Coordination Centre (RCC) of the hydrocarbon spill. Follow up with a written POLREP as soon as practicable following verbal notification.
As soon as possible if spill affects WA state waters	WA DoT	+61 8 9480 9924	Verbally notify the Marine Environmental Emergency Response (MEER) Duty Officer WA DoT. Follow up with a written MOP Incident Report Form to marine.pollution@transport.wa.gov.au as soon as practicable following verbal notification.
As soon as possible if spill affects NT state waters (within 24 hours of becoming aware of the incident)	NT EPA	1800 064 567	Verbally notify the NT EPA as possible after the incident occurs. Follow up with a written report to pollution@nt.gov.au

NOTIFICATIONS TO BE COMPLETED BY ENI'S INCIDENT MANAGEMENT TEAM			
Notification Timing	**Authority/ Company**	**Contact Number**	**Instruction**
Within 1 day	National Offshore Petroleum Titles Administrator (NOPTA)	(08) 6424 5302	Provide a verbal or written incident summary.
Within 1 day	Department of Mines, Industry Regulation and Safety (DMIRS)	(08) 9222 3095 petroleum.environment@dmirs.wa.gov.au	Provide a verbal or written incident summary.
Within 3 days	NOPSEMA	submissions@nopsema.gov.au	Provide a written NOPSEMA Form FM0831 'Report of an accident, dangerous occurrence or environmental indicent'.as soon as practicable (no later than 3 days after notification).
Within 7 days	Department of Agriculture, Water and the Environment (DAWE)	+61 2 6274 1111 epbc.permits@environment.gov.au	Provide a written report if spill incident injures or kills one or more of the following in a Commonwealth area: • an EPBC Act listed threatened species • a member of EPBC Act listed threatened ecological community • a cetacean.
Activate when there is imminent or actual impact to wildlife	DBCA	(08) 9219 9108	Provide a verbal incident summary.
Incidences which occur within an Australian Marine Park (AMP) or are likely to impact on a AMP	Director of National Parks (DNP)	24-hour Marine Compliance Duty Officer on 0419 293 465	The DNP should be made aware of oil/gas pollution incidences which occur within a AMP or are likely to impact on a AMP as soon as possible.

NOTIFICATIONS TO BE COMPLETED BY ENI'S INCIDENT MANAGEMENT TEAM			
Notification Timing	**Authority/ Company**	**Contact Number**	**Instruction**
Within 24 hours after reporting to NOPSEMA an oil spill or discharge of any other pollutant into the environment	WA DPIRD	0439 258 575 environment@fish.wa.gov.au	Contact the WA DPIRD Response Officer within 24 hours of reporting the incident to the appropriate authority.
Within 24 hours after reporting to NOPSEMA an oil spill or discharge of any other pollutant into the environment	NT DPIR	08 8999 6350 After hours 1300 935 250 DPIRPetroleumOperations@nt.gov.au	Contact the NT DPIR Response Officer within 24 hours of reporting the incident to the appropriate authority.
Should impact be expected to community members including: • fishing industry • tourism industry • local community • indigenous groups	Refer to Blacktip Stakeholder Database for stakeholder representatives	Refer to Blacktip Stakeholder Database	Contact relevant stakeholder representatives as per details within the Blacktip Stakeholder Database

1.2 Escalation and De-Escalation of Response Levels

Table 1.2 lists escalation and de-escalation response triggers. The OSC is responsible for de-escalation and termination of the response for Level 1 spills. The IMT Leader is responsible for escalation and de-escalation of Level 2 or 3 spills.

Table 1.2: Escalation and de-escalation triggers for oil spill response

Escalation Triggers	De-escalation Triggers
An incident will escalate from Level 1 to a 2 if: • greater than 10 m^3 of oil has been spilt or is predicted to spill in the near future, or • additional support resources are required at local, regional or national level.	The incident will be de-escalated from Level 2 to 1 if the hydrocarbon source is under control and additional support resources are no longer required.
The level will escalate from Level 2 to a 3 if: • greater than 1000 m^3 of oil has been spilt or is predicted to spill in the near future, or • the surface slick is predicted to reach a shoreline, or • significant external support (from local, regional, national and international organisations) and/or a response of an extended duration is required. Incident controller delegates all incident management functions to focus on leadership and strategy.	The incident will be de-escalated from Level 3 to 2 when: • continued response activities will have no further improvements, or • endpoint criteria for response strategies in Section 7 have been met.

1.2.1 Spill Response Levels

Eni's incident response levels broadly align with state, territory and national incident response plans including the MEE, NT Plan and the NatPlan. Spill response levels help to identify the severity of an oil spill incident and the level of response required to manage the incident and mitigate environmental impacts. Incident response levels are further detailed in Table 1.3 for hydrocarbon spills.

Table 1.3: Eni oil spill response levels

Level 1	
An incident which will not have an adverse effect on the public or the environment. **An incident which can be controlled by the use of resources normally available on-board vessel in the case of this EP without other external assistance.**	
As a guide only – spills up to 10 tonnes (0–70 bbl or 0–11 m^3). Oil is contained within the incident site. Spill occurs within immediate site proximity. Able to respond to the spill immediately.	Source of spill has been contained. Oil is evaporating quickly and no danger of explosive vapours. Spill likely to naturally dissipate. No media interest/not have an adverse effect on the public.
Level 2	
An incident that cannot be controlled by using onsite resources alone and requires external support and resources to combat the situation; or **An incident that can be controlled onsite, but which may have an adverse effect on the public or the environment.**	
All spills between 10 and 1000 tonnes (71–7000 bbl or 11 m^3–1113 m^3). Danger of fire or explosion. Possible continuous release. Concentrated oil accumulating in close proximity to the site or vessel. Potential to impact other installations.	Level-1 resources overwhelmed, requiring additional regional resources. Potential impact to sensitive areas and/or local communities. Local/national media attention/may adversely affect the public or the environment.
Level 3	
An event capable of determining a very dangerous condition for the site and/or the surrounding area. **An incident which may require the mobilisation of external state, national or international resources to bring the situation under control.**	
Loss of well integrity. Actual or potentially serious threat to life, property, industry. Major spill beyond site vicinity. As a guide – spills above 1,000 tonnes (>7000 bbl or >1113 m^3). Significant shoreline environmental impact.	Level-2 resources overwhelmed, requiring international assistance. Level- 3 resources to be mobilised. Significant impact on local communities. International media attention.

1.2.2 Initial OPEP activations for a Level 1 spill

The OSC is responsible for initial activations for a Level 1 spill. Also refer to Flowcharts 1, 2 and 3.

Table 1.4: Activations for Level 1 spills

When	Activation	Who
Immediate	Manage the safety of personnel on the vessel / MODU or WHP and in operational area.	OSC
Immediate	Control the source using resources as per the SOPEP, OPEP and/or Eni Source Control Plan ENI-WOP-PL-001. Refer **Source Control Plan** – go to **Section 8.1**.	OSC
30 minutes	Make initial notifications. Activate the **Notifications Plan** – go to **Section 1.1**.	OSC
90 minutes	Monitor and evaluate the spill from the available vessels. Go to **Section 8.2**.	OSC
Ongoing	Provide updates and incident reporting in accordance with Notifications Plan – go to **Section 1.1**. For vessel spills in Commonwealth waters, Eni will act as Control Agency until such time that AMSA assumes the role of Control Agency in which case Eni will follow direction of AMSA and provide all necessary onsite resources. For WHP, SPM and MODU spills (from a wellhead) Eni is the Control Agency and will remain in this position until response strategy termination criteria are met. NOPSEMA maintain a Jurisdictional Authority role as the spill has originated in their area of jurisdiction.	OSC

1.2.3 Initial OPEP activations for a Level 2/3 spill

Following activation of the first strike plan outlined in Flowcharts 1, 2 and 3, the OPEP will be activated as follows.

Table 1.5: Activations for Level 2/3 spills response

FOR IMMEDIATE RESPONSE ACTIVATIONS (<1 HR) REFER TO FLOW CHART 1, 2 AND 3			
When	**Objective**	**Strategy**	**Who**
90 minutes	Gain situational awareness and undertake spill surveillance.	Activate the **Monitor and Evaluate Plan** – go to **Section 8.2**.	Operations Officer Logistics Officer Environmental Advisor
3 hours	Use operational inputs to inform the response planning	Initiate the development of **Incident Action Plan** – go to **Section 2.6** and template in **Appendix C**	Planning Officer Environment Advisor
5 hours	Prevent/mitigate impacts to wildlife.	Activate the **Oiled Wildlife Response Plan**– go to **Section 8.4**.	Environmental Advisor Operations Officer
8 hours	Manage the safety of all responders.	Initiate the development of a **Safety Management Plans**.	Safety Officer
1 day	Assess and monitor impacts from spill and response.	Activate **Scientific Monitoring Plan** – go to **Section 8.6**.	Environmental Advisor Planning Officer Logistics Officer
1 day	Manage the handling and disposal of any oil contaminated materials.	Initiate the development of a **Waste Management Plan** – go to **Section 8.5**.	Planning Officer Logistics Officer
Ongoing	For vessel spills in Commonwealth waters, following notification of a Level 2/3 vessel spill, AMSA as the legislated Control Agency, may formally assume control of the spill response and provide direction to those activities already commenced by Eni. For spills resulting from a petroleum activity, Eni is the Control Agency and will remain in this position until response strategy termination criteria are met. NOPSEMA maintain a Jurisdictional Authority role as the spill has originated in their area of jurisdiction. For vessel or petroleum activity spills that originate or enter State waters, WA DoT is the Control Agency and may formally assume control of the spill response and provide direction to those activities already commenced by Eni.		N/A

Note: as the MODU is fixed to the substrate, it is considered a petroleum activity.

1.3 Mobilisation of Response Strategies

The following response strategies have been identified in the pre-operational NEBA (Section 7.1). Mobilisation of response strategies is dependent on the spill level (Refer to Flowchart 1 for Spill Response Levels). Table 1.6 and Table 1.7 present the first response actions relevant for Level 1 and Level 2/3 condensate or marine gas oil (MGO) or marine diesel oil (MDO) spills. Response strategies should be re-evaluated in an Operational NEBA (Section 7.1).

Table 1.6: NEBA summary and operational plans for response strategies – Level 1

Strategy	Hydrocarbon type		First response actions	Action by	Resource
	Condensate	MGO/MDO			
Monitor and Evaluate	Yes	Yes	Appoint vessel crew to observe the spill area or slick	OSC	Section 8.2 (Monitor and Evaluate) Appendix G (OSMP)
			Stand up KSAT to provide satellite imagery of the spill	Eni Duty Officer	
Source control	Yes	Yes	Implement SOPEP	OSC	SOPEP See Section 8.1
Waste Management	Yes	Yes	Dispose of hazardous waste in accordance with vessel / MODU Garbage Management Plan	OSC	Section 8.5 (Waste Management)

Table 1.7: NEBA summary and operational plans for response strategies – Level 2/3

Strategy	Hydrocarbon type		First response actions	Action by	Resource
	Condensate	MDO/MGO			
Monitor and Evaluate	Yes	Yes	Implement OMP1 – mobilise vessel and aircraft for surveillance.	IMTL	Section 8.2 000036_DV_PR. HSE.0860.000 (OSMP) – see Appendix G
			Deployment of satellite tracking buoy (drilling/intervention)	OSC	
			Implement OMP2 – sample hydrocarbon for chemical and physical properties.	IMTL	

Strategy		Hydrocarbon type: Condensate	Hydrocarbon type: MDO/MGO	First response actions	Action by	Resource
				Source real time oil spill modelling via AMOSC.	Planning Officer	
				Stand up KSAT to provide satellite imagery of the spill.	Operations Officer	
				Depending on results of modelling and monitoring, consider OMP3. Mobilise resources for marine megafauna assessment.	IMTL	
Source control	Vessel	Yes	Yes	Implement SOPEP.	Vessel Master / Drilling OIM	Vessel SOPEP
Source control	Facility and Drilling	Yes	Yes	Mobilise resources and personnel for source control.	Operations Officer	Section 8.1 ENI-WOP-PL-001 (Source Control Plan)
Shoreline clean up		Yes	Yes	Equipment from AMOSC, OSRL, WA DOT / NT DPIL and AMSA stockpiles and relevant personnel mobilised.	Logistic Officer	Section 8.3
Surface Dispersants		No	No	N/A	N/A	N/A
Subsea Dispersants		No	No	N/A	N/A	N/A
Containment and Recovery		No	No	N/A	N/A	N/A
Protection and Deflection		No	No	N/A	N/A	N/A
Oiled wildlife response		Yes	Yes	Equipment from AMOSC, OSRL WA DoT and AMSA Western Australian Stockpiles and relevant personnel mobilised.	Logistic Officer	Section 8.4
Waste Management		Yes	Yes	Appoint a Waste Management Coordinator (WMC).	Operations Officer	Section 8.5 ENI-HSE-ST-059 (Waste Management Standard)
Waste Management		Yes	Yes	Develop Waste Management Sub-Plan in line with Eni Waste Management Standard.	Planning Officer	

Strategy	Hydrocarbon type		First response actions	Action by	Resource
	Condensate	MDO/MGO			
Scientific Monitoring	Yes	Yes	Set up Purchase Order under Eni Environment and Social Impact Consultancy Services Panel	Logistic Officer	000036_DV_PR. HSE.0860.000 (OSMP) – see Appendix G
In-situ burning	No	No	N/A	N/A	N/A

1.3.1 Operational and Scientific Monitoring

Details on ENIs Operational and Scientific Monitoring capability is included in the OSMP (000036_DV_PR.HSE.0860.000).

2. OIL POLLUTION EMERGENCY PLAN OVERVIEW

This document is the accompanying Oil Pollution Emergency Plan (OPEP) to the Blacktip Offshore Environment Plan (EP) (00036_DV_PR.HSE.0677.000), as required by Regulation 14(8) of the Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (OPGGS (E) Regulations).

2.1 Summary of Proposed Activity

Eni Australia Limited (Eni) operates the Blacktip Gas Field, approximately 200 km west-south-west of Darwin, located in Lease Area WA-33-L, Joseph Bonaparte Gulf. The field consists of a small unmanned offshore Wellhead Platform (WHP), a subsea gas export pipeline (GEP) bringing whole well stream fluid, (i.e. gas, condensate and produced water) to the Yelcherr Gas Plant (YGP) near Wadeye.

Blacktip Operations activities are generally limited to production operations, inspection, maintenance and repair activities, periodic tanker vessel offtakes and rigless well intervention activities.

In addition, Eni propose to drill a third development well in the field using a jack up MODU, cantilevered over the WHP.

2.2 Purpose and Scope of this OPEP

The OPEP is an operational document and contains all information necessary for Eni to carry out a response to an emergency oil spill arising from the Petroleum Activities Program.

This OPEP applies to all activities relating to Blacktip offshore operations. It includes organisational responsibilities, actions, reporting requirements, and resources available to ensure the effective and timely management and response to an accidental oil spill.

For Eni contracted vessels, this OPEP applies once they enter the 500 m exclusion zones until the time they exit. In the event of an oil spill outside of the exclusion zone, it will be the responsibility of the vessel owner to respond in accordance with the vessel specific Shipboard Oil Pollution Emergency Plan (SOPEP).

2.3 High-Level Objectives of OPEP

The overall aim of this OPEP is to prevent long term significant environmental impacts by safely limiting the adverse environmental effects from an unplanned release of hydrocarbons to the marine environment to a level that is as low as reasonably practicable (ALARP); this will be achieved through the implementation of the various strategies presented throughout this OPEP, each with their own objectives.

2.4 Interface with External Plans

The OPEP is integrated with a number of government plans as well as oil industry mutual assistance plans. These are listed in Table 2.1.

Table 2.1: Associated external plans

Jurisdiction	Plan Title	Administering Agency	Function/Application
Industry (all waters)	Australian Marine Oil Spill Centre Plan (AMOS Plan	Australian Marine Oil Spill Centre (AMOSC)	Sets out industry arrangements for mutual aid and access to AMOSC resources.
Commonwealth of Australia (Commonwealth waters)	National Plan for Maritime Environmental Emergencies (NatPlan)	AMSA	Sets out oil spill preparedness and response procedures under the NatPlan.
NT	NT Marine Oil Pollution Manual	NT Department of Transport (DoT)	Sets out NT arrangements for marine oil spill preparedness and response.
	NT OSCP		
	NT Wildlife Response Plan for Oil Spills	NT Department of Tourism, Sport and Culture (DTSC) – Parks and Wildlife Commission (PWC))	Implemented by the Oiled Wildlife coordinator within the NT IMT.
Western Australia (WA)	Western Australia State Hazard Plan for Maritime Environmental Emergencies. (MEE)	WA DoT	Response to oil in WA waters.
	WA Marine Hazardous Materials Emergency Management Plan (WestPlan-HAZMAT)	Department of Fire and Emergency Services (DFES)	Response to spills of non-oil chemicals or other hazardous substances.
	WA Oiled Wildlife Plan	WA Department of Biodiversity, Conservation and Attractions (DBCA)	Response plan for managing oiled wildlife in WA waters.

2.5 Interface with Internal Documents

This OPEP interfaces with other relevant Eni crisis and emergency plans as detailed in Table 2.2.

Table 2.2: Eni Crisis and Emergency Management Plans

Document Title	Document Number	Scope and Function
Eni HSE IMS Framework	ENI-HSE-IN-002	Describes the way in which security, safety, health and the environment are managed by Eni.
Eni Crisis Management Plan	ENI-HSE-PL-033	Company-wide plan setting out Crisis Management Team (CMT) procedures.
Eni Incident Management Plan (IMP)	ENI-HSE-PL-034	Covers company-wide emergency management. Integrated with facility and Project environmental management plans.
IMT Support Team Manual	ENI-HSE-PL-037	Covers operation and roles and responsibilities of IMT support teams, including Oil Spill Response Planning Team, Aerial Surveillance Team, and Oil Spill Response Logistics team. Provides support team checklists.
IMT Emergency Contact Directory	ENI-HSE-PL-039	Provides extensive list of government, contractor and Eni contacts and contact details.
Eni Blacktip Emergency Response Plan	000036_DV_PR.HSE.0675.000	Covers Blacktip Facility emergency response
Source Control Response Plan	ENI-WOP-PL-001	Covers well source control, including relief well drilling and capping stack deployment.
Vessel Shipboard Oil Pollution Emergency Plans (SOPEPs)	As per contractor document control	SOPEPs as per International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto (MARPOL) requirements.

2.6 Incident Action Plan

The Incident Action Plan (IAP) is a key step in managing any significant response, recognising that all incidents are different and will be subject to variable factors such as weather, timing (seasons), sea state, duration, size and nature of release. The purpose of the IAP is to consider all these variable and changing factors, to ensure the response continues to be suitable for the event.

The IAP will use operational monitoring inputs to inform the response planning. The IAP will detail the response mechanisms and priority areas for protection based on the actual circumstances of the event, taking into account the spill trajectory, weather conditions and safety considerations.

Given the range of potential outcomes from a release event, an IAP is a critical step identified in the response strategy. Key activities to be addressed by the IAP include a review of the Net Environmental Benefit Analysis (NEBA) (Section 7), oil spill modelling (OSM), and ongoing consultation with affected/ involved stakeholders. To ensure that the IAP is appropriate for the nature of the spill, Eni shall seek the advisory support of technical experts as nominated by AMSA, AMOSC and operators with activities within the spill area.

Table 2.3 presents the steps for developing the IAP. A blank IAP template is provided in Appendix C.

Table 2.3: Incident Action Plan procedure

Task		Description	Action
1	Set Response Aim	This Response Aim is a broad statement of the overriding aim of the response, i.e. what the response is aiming to achieve. It may also set priorities. The aim may be set by the IMT Leader, Crisis Manager or Statutory Authority.	IMTL
2	Set Objectives	These are "goal statements" and indicate desired individual outcomes of the response (e.g. containment and recovery at location A). They are generally set by the IMT Leader.	Entire IMT
		Objectives may be set for all functions within the response. For example "Delivery of equipment to the Shore Base" might be an objective for the Logistics Officer.	
		Objectives should be ranked according to priorities, which are decided by the IMT Leader.	
3	Determine Response Strategies	Strategies describe how the IMT (in particular Operations) plan to achieve the stated objectives.	Relevant IMT Officers
		Strategy options may be limited by weather, availability of equipment or by a range of operational constraints.	
		The NEBA (Section 7) will present viable and appropriate strategies.	Planning Officer
		Some strategies may require regulatory approval. Obtain any permits required.	IMTL
4	Determine Tactics or Methods	Methods for implementing may be written as a series of tasks detailing the deployment of personnel and equipment.	Relevant IMT Officers
	Prepare/ Review	This may include, aerial surveillance, marine response, media, etc.	

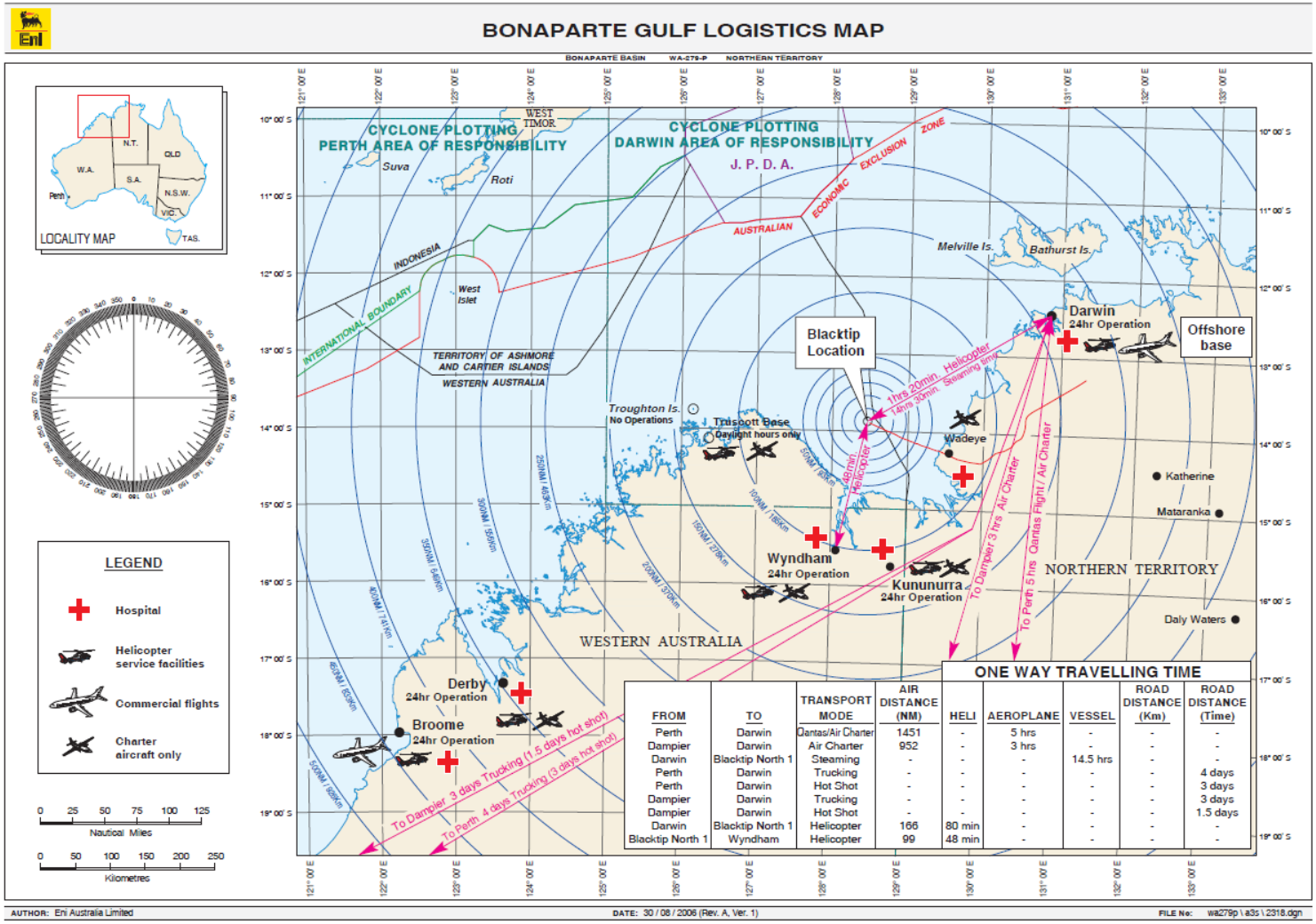
Task		Description	Action
5	Sub Plans	The Planning Officer should identify relevant plans for achieving the set objectives and coordinate the development of these plans, e.g. aerial surveillance, vessel surveillance, shoreline clean-up, waste management.	Planning Officer
		The Logistics Officer should compile a list of equipment, personnel and service requirements for the planned response.	Logistics Officer
6	Collate the IAP	Collate the IAP (Aim, Objectives, Strategies, Methods and Logistics etc.) and distribute to IMT and IMT officers.	Planning Officer
7	Approve IAP	The IMTL must approve the IAP and any revisions to the IAP. The IMT Leader is responsible for ensuring the IAP is consistent with regulatory requirements and this OPEP.	IMTL
8	Monitor	Monitor the progress of the response and assess against objectives.	Planning Officer
		Notify IMTL of the need to revise the IAP.	
9	Revise IAP	Repeat this process during the response as the situation, objectives, strategies or tactics change.	N/A

3. RESOURCES AND MOBILISATION SUMMARY

3.1 AMOSC, OSRL and AMSA Resources Available

Table 3.1: Resource and mobilisation overview

	Time period from notification to mobilise		
	<24 hours	**48-72 hours**	**> 96 hours**
AMOSC	Deploy from various stockpile locations. Transport: Aircraft	Deploy from various stockpile locations. Transport: Aircraft/truck/boat–optimum will be chosen. • Skimmers • Power Packs, Pumps and Accessories • Booms and Accessories • Equipment • Sorbents, Pads and Booms • Waste Storage <10,000 L • Oiled Wildlife Equipment.	Deploy from various stockpile locations. Transport: Aircraft/truck–optimum will be chosen. • Skimmers • Power Packs, Pumps and Accessories • Booms and Sorbents • Waste Storage • Communications • Tracking Buoys • Oiled Fauna Kit.
OSRL	-	Available is 50% of the OSRL equipment (if required) including: • >2 km offshore booms • >14 offshore skimmers. Time for delivery of this equipment will vary–commence receiving within 72 hours.	-
AMSA	Deploy from various locations Transport: Aircraft	Deploy from various stock pile locations. Transport: Truck/boat/aircraft–optimum will be chosen. • Skimmers • Power Packs, Pumps and Accessories • Booms and Accessories • Sorbents, Pads and Booms • Waste Storage <10,000 L • Oiled Fauna Kit.	Deploy from various stockpile locations. Transport: Aircraft/truck–optimum will be chosen. • Skimmers and Sorbents • Power Packs, Pumps and Accessories • Booms and Accessories • Waste Storage • Communications • Tracking Buoys • Oiled Fauna Kit.



FROM	TO	TRANSPORT MODE	AIR DISTANCE (NM)	HELI	AEROPLANE	VESSEL	ROAD DISTANCE (Km)	ROAD DISTANCE (Time)
Perth	Darwin	Qantas/Air Charter	1451	-	5 hrs	-	-	-
Dampier	Darwin	Air Charter	952	-	3 hrs	-	-	-
Darwin	Blacktip North 1	Steaming	-	-	-	14.5 hrs	-	-
Perth	Darwin	Trucking	-	-	-	-	-	4 days
Perth	Darwin	Hot Shot	-	-	-	-	-	3 days
Dampier	Darwin	Trucking	-	-	-	-	-	3 days
Dampier	Darwin	Hot Shot	-	-	-	-	-	1.5 days
Darwin	Blacktip North 1	Helicopter	166	80 min	-	-	-	-
Blacktip North 1	Wyndham	Helicopter	99	48 min	-	-	-	-

Figure 3.1: Logistics map with aerial support bases, response times

3.2 Logistics Resources

Eni's supply base in Darwin is the TOLL Supply Base. TOLL is Eni's integrated logistics provider in Australia and will support of emergency services. TOLL has contracted ISS as Toll's (Australian) national emergency responder.

TOLL can provide immediate access to maritime professionals through their personnel network in Darwin and Perth that could assist in the event of a spill.

Company	Function	Contact Details
TOLL	ISS emergency response	ISS 24/7 emergency responder: 1300 131 001 or 1800 639 621 or +61 (03) 8545 1000
	Reception	+61 8 9320 1111
	Logistics – Support	+61 488 101 637

3.3 Aircraft Resources

Eni has contracts in place with Babcock Offshore Services Australia and FCM travel solutions. On behalf of Eni, FCM and TOLL can contract approved aviation companies (e.g. Murin, Air North) for the provision of services using dedicated aircraft based at Truscott and Darwin.

Company	Contact Details
Babcock Offshore Services Australia Mungalalu/Truscott Airfield WA	+61 8 9161 4072 Babcock.truscott@babcock.com.au
FCM Travel Solutions	1300 557 854

These aircraft may be used for:

- aerial observation duties;
- transportation of personnel to attend to a response;
- transportation of equipment.

If additional aircraft are required, other helicopter and fixed wing aircraft service providers in Darwin and Broome will be contacted in the event of a spill. Service providers include:

- Hardy Aviation;
- Pearl Aviation.

If local aircraft are unavailable, or sources cannot be located, the IMT Logistics Officer will immediately contact the Senior Search and Rescue Officer-Aviation (SARO) Australian Search and Rescue (AusSAR) Canberra for available aircraft. The request should specify the task to be performed by an aircraft.

When implementing aerial resources, a flight exclusion is required from the Civil Aviation Safety Authority via AMSA.

The types of aircraft available to Eni in the event of a spill, and their capability is summarised in Table 3.2.

Table 3.2: Aircraft resources

Transport Type	Base	Oil Spill Response Capability	Comment
Helicopters	Truscott	Babcock. AMOSC and AMSA. Visual observation.	Pilot and trained observer deployed from Darwin, for visual spill observations. Search and rescue support.
Fixed wing aircraft	Darwin and Truscott.	Murin through TOLL. Visual observation. Cargo. General transport.	Additional resources may be contracted through TOLL
Chartered fleet	Truscott, Darwin, Derby or Broome. Australia. International.	AMSA and AMOSC. Visual observation. Technical cameras.	Pilot and trained observer deployed from Darwin, for visual spill observations. Highly technical camera system to measure thickness of the oil slick - GIS mapping, to direct booms and to produce a daily chart for visual observations and to check for anomalies. Additional resources may be contracted through FCM.

3.4 Vessel Resources

In the event of a spill, vessels may be required for assistance in any one of the response strategies for transportation of equipment or active involvement in spill response activities. Vessels may be required for:

- marine surveillance duties;
- transportation of personnel to attend a response;
- oil and waste storage and transport;
- oiled wildlife response; and
- transportation of equipment.

Within 12 hours of a spill, the IMT Logistics Officer will identify any vessels within the immediate area with a capability to assist with the response. The Logistics Officer may identify vessel of opportunity by making contact with Shipping Agents within Darwin (as specified on the Darwin Port Handbook).[1]

Eni may also engage through TOLL all vessel operators and owners in WA, NT and Singapore to charter suitable vessels. Refer to Section 3.2 for TOLL contact details.

[1] Available: https://www.darwinport.com.au/trade/port-handbook

The Logistics Officer would then make contact with other shipping agents to determine what vessels are available in the greater region, such as areas including Broome, Dampier and Exmouth. However, relevant transit times are to be considered as part of procuring vessels from distant locations. Spot hire vessel contracts will specify the requirement for use of mud/slops tanks as part of the spill response for recovered oil, this will enable greater capacity of storage on-board the vessel. Storage capacities are expected to vary between vessels, however vessels with larger capacities will be utilised for recovery operations.

Vessels contracted to assist in the spill will be utilised to support a number of response activities such as oiled wildlife and shoreline protection, and throughout the duration of the spill the vessel role may change from one response activity to focus on another (shoreline protection to shoreline clean-up). The Logistics, Planning and Operations Officers will continually assess the vessel resources available and determine the most efficient means of use.

3.5 Labour Hire

The contract with TOLL includes provision for labour hire. Refer to Section 3.2 for TOLL contact details.

4. OPEP REQUIREMENTS AND LEGISLATIVE FRAMEWORK

The OPEP has been developed to meet all relevant requirements of the OPGGS (E) Regulations. It is consistent with the national system for oil pollution preparedness and response: The National Plan for Maritime Environmental Emergencies (NatPlan) managed by the Australian Maritime Safety Authority (AMSA), the Northern Territory (NT) Oil Spill Contingency Plan (NT Plan) and the Western Australia State Hazard Plan for Maritime Environmental Emergencies. (MEE). The OPEP also provides information consistent with Appendix 5 of the *Offshore Petroleum Industry Guidance Note - Marine Pollution: Response and Consultation Requirements*.

This OPEP is made available to the following Regulatory agencies and stakeholders:

- National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA);
- Australian Maritime Safety Authority (AMSA);
- Australian Maritime Oil Spill Centre (AMOSC);
- Western Australia Department of Transport as the Hazard Management Authority (WA DoT);
- Northern Territory Department of Infrastructure, Planning and Logistics Marine Safety (NT DIPL Marine Safety).

A summary of all relevant legislation is provided in Table 4.1.

Table 4.1: Relevant legislation

Legislation	Purpose	Authority
Commonwealth		
Environmental Protection and Biodiversity Conservation Act 1999	Protection of Australia's environment and biodiversity values	DAWE
Environmental Protection and Biodiversity Conservation Regulation 2000	Protection of Australia's environment and biodiversity values	DAWE
Western Australia		
Conservation and Land Management Act 1984	Manage land and waters, flora and fauna	Department of Biodiversity, Conservation and Attractions (DBCA)
Conservation and Land Management Regulations 2020	Manage land and waters, flora and fauna	DBCA
Wildlife Conservation Act 1950	Conservation and protection of flora and fauna	DBCA
Wildlife Conservation Regulations 1970	Conservation and protection of flora and fauna	DBCA

Legislation	Purpose	Authority
Animal Welfare Act 2020	Governs the treatment and welfare of animals in Western Australia	DPIRD
Environmental Protection Act 1986	Department of Mines, Industry Regulation and Safety (DMIRS) refers petroleum environment plans to the Office of the Environmental Protection Authority (OEPA) for consideration under the DMIRS/OEPA Memorandum of Understanding (MoU)	OEPA
Environmental Protection Amendment Act 2003	Management of Western Australia's environment	OEPA
Northern Territory		
Aboriginal Land Rights (Northern Territory) Act 1976	An Act that provides for access to Aboriginal land, certain roads bordered by Aboriginal land and the seas adjacent to Aboriginal land.	DIPL
Northern Territory Environment Protection Authority Act 2018	An Act to establish the Northern Territory Environment Protection Authority, and for related purposes.	DENR
Parks and Wildlife Commission Act 2013	An Act to establish a Commission to establish and manage, or assist in the management of, parks, reserves, sanctuaries and other land, to encourage the protection, conservation and sustainable use of wildlife, to establish a land holding corporation in connection with those purposes, and for related purposes. This Act establishes the Parks and Wildlife Commission as the lead agency for OWR in the NT.	DTSC
Territory Parks and Wildlife Conservation Act 2014	An Act to make provision for and in relation to the establishment of Territory Parks and other Parks and Reserves and the study, protection, conservation and sustainable utilisation of wildlife.	DTSC DENR (for Part IV, Divisions 1 to 5 of the Act)

4.1 Jurisdictional Authorities and Control Agencies

During a spill response there will be both a Jurisdictional Authority and a Control Agency assigned to the oil spill incident for all spill response levels. The Jurisdictional Authority is the relevant Statutory Authority that has responsibilities for oil pollution in that jurisdiction. The Control Agency is the agency or company assigned by legislation, administrative arrangements or within the relevant contingency plan to control response activities to an oil pollution emergency (Table 4.2).

Table 4.2: Marine oil pollution arrangements

Role	Spill Level	State waters *		Commonwealth waters	
		Blacktip Facility / Drilling	Vessel	Blacktip Facility / Drilling	Vessel
Control Agency	1	Eni	WA DoT/ NT DIPL	Eni	AMSA
	2/3	WA DoT/NT DIPL	WA DoT/ NT DIPL	Eni	AMSA
Jurisdictional Authority	1/2/3	WA DoT/NT DIPL	WA DoT/ NT DIPL	NOPSEMA	AMSA

*For the Blacktip Operations, this is spills originating in Commonwealth waters and crossing to State waters.

In all instances, Eni will act in the role of Control Agency, and implement a first-strike response, until such time that another Control Agency takes control if required.

The provision of resources for any level of oil spill event response will be coordinated by Eni IMT when Eni are the Control Agency.

Support agencies may be requested to join the IMT at the commencement of an incident. Triggers for inviting the support agencies into the IMT are provided in Table 4.3.

Table 4.3: Triggers for Statutory Authorities and support organisations to join the IMT

Support	Trigger to join the IMT
AMSA	Spill response activated or requiring NatPlan Resources. An event which has, in the opinion of the IMT Leader, the potential to escalate into a Level 2 or Level 3 spill.
AMOSC and OSRL	Level 2 or Level 3 spill requiring AMOSC support and Core Group members or specialist OSRL resources. An event which has, in the opinion of the IMT Leader, the potential to escalate into a Level 2 or Level 3 spill.
WA DoT and NT DIPL	Spill has potential to enter WA or NT waters.

Based on spill modelling undertaken for the Worst Case Credible Spill (WCCS) scenarios, it is expected that spill response will take place primarily, and potentially completely, within offshore Commonwealth waters. However, a spill may enter State waters and shoreline accumulation may occur. Therefore, arrangements for State waters response are outlined in case spill trajectories reach State waters.

4.2 Relevant Authorities

4.2.1 Response to Spills in Commonwealth Waters

Vessels

For a vessel incident originating in Commonwealth waters, the Jurisdictional Authority and Control Agency is AMSA. AMSA is the national shipping and maritime industry regulator and was established under the Australian Maritime Safety Authority Act 1990. AMSA manages the NatPlan on behalf of the Australian Government, working with State and the Northern Territory governments, emergency services and private industry to maximise Australia's marine pollution response capability.

Eni is required to have adequate preparedness arrangements for spills from vessels undertaking Petroleum Activities within Commonwealth waters under OPGGS Act 2006 and OPGGS (E) Regulations.

Eni will be responsible for coordinating a first-strike response to a vessel-based spill in Commonwealth waters until such time as AMSA takes over the role as Control Agency, at which time Eni would provide all available resources as a Supporting Agency.

Blacktip WHP, SPM or wellhead

For Blacktip spills in Commonwealth waters from the Blacktip WHP, SPM or wellhead the Jurisdictional Authority is NOPSEMA and the Control Agency is Eni. Eni is responsible for coordinating the response.

4.2.2 NOPSEMA

The function of the NOPSEMA includes regulation of environmental management of offshore petroleum activities in the Commonwealth offshore areas and in coastal waters where WA State and NT State powers have been conferred.

NOPSEMA is the National Authority for offshore petroleum activities and a Statutory Authority under the NatPlan. In these roles, NOPSEMA is responsible for the oversight of response actions to pollution events from offshore petroleum operations (excluding vessel-only spills) in areas of Commonwealth jurisdiction.

4.2.3 Australian Marine Oil Spill Centre (AMOSC)

Industry assistance is available through the Australian Marine Oil Spill Centre (AMSOC), an industry funded response facility based in Fremantle, WA and Geelong, Victoria. As a member company of AMOSC, Eni has access to AMOSC's oil spill recovery and response equipment, training, technical capabilities along with those resources held by member companies as outlined in the AMOSPlan.

AMOSC has contracts with all its member companies to enable the immediate release of Core Group personnel to be made available for any Eni requirements, as outlined in Eni's *Master Service Contract and Principle and Agency Agreement* with AMOSC.

The IMT Leader has authorisation to request the mobilisation of AMOSC resources. AMOSC support is facilitated through the AMOSPlan using various legal instruments signed by all members. The AMOSPlan also provides a link into the NatPlan (AMSA) resources.

Upon activation, AMOSC provides an immediate response service.

AMOSC Core Group of over 100 personnel re-validate their competencies every two years through additional training and exercises at AMOSC and relies on competence-based training for its skill-base. This ensures personnel have appropriate training and competency for oil spill response to ensure tasks, for example offshore containment and recovery, shoreline protection and deflection can be completed effectively. AMOSC Core Group personnel provide the surge capability in response to a Level 2 or 3 spill.

AMOSC will supply a liaison person directly to the IMT to assist the IMTL and Planning and Operations Officers.

4.2.4 AMSA

Eni has a Memorandum of Understanding (MoU) in place with AMSA which outlines respective roles and responsibilities when responding to a hydrocarbon spill. When Eni is the control agency (for petroleum activities) arrangements outlined in this OPEP will apply and AMSA may provide and co-ordinate resources of the National Plan request from Eni IMT.

AMSA manages the NatPlan, which has been developed in consultation with State/NT government, the shipping, oil and gas exploration and production companies, chemical industries and emergency service organisations to maximise Australia's marine pollution response capability.

A master services agreement is in place between Australian Marine Oil Spill Centre (AMOSC) and AMSA, enabling AMSA to hire equipment and personnel from AMOSC in accordance with the National Plan. These resources include both AMOSC's own resources and those that may be available from Participating Companies. The agreements in place with AMOSC allow resources from these companies to be hired through AMOSC by AMSA on behalf of the NatPlan (including DoT for WA State/NT Sate waters).

4.2.5 State/Territory Authorities

As outlined in Section 1, Eni will notify the DoT Maritime Environmental Emergency Response (MEER) unit as soon as practicable (within 2 hours of spill occurring). On notification, the HMA will activate their Maritime Environmental Emergency Co-ordination Centre (MEECC) and the DoT IMT.

In the event of a Level 2/3 spill entering WA State or NT State waters, WA DoT / NT DIPL is the Control Agency for that portion of the response activity that occurs within State waters. However, Eni will conduct initial response actions in State waters in accordance with this OPEP and will continue to manage those operations until formal incident control can be established by WA DoT / NT DIPL. In performing the Control Agency function, WA DoT / NT DIPL will use this OPEP as a starting point for all aspects of a response, including response assets and contracts specified in this OPEP, e.g. waste management, transport and personnel, as well as arrangements with third party responders including AMOSC.

Once WA DoT / NT DIPL Marine is notified of a spill entering State waters WA DoT / NT DIPL will establish an IMT. WA DoT / NT DIPL's Incident Controller will establish contact with Eni's CMT Leader and complete the Control Agency Transfer Checklist (Appendix B).

Eni will provide appropriately qualified personnel to join the IMT as outlined in Section 5.6.1. These individual's will not occupy roles on Eni's IMT to ensure full availability for supporting WA DoT / NT DIPL IMT.

To facilitate effective coordination between Eni's and WA DoT / NT DIPL IMTs, a Joint Strategic Coordination Committee (JSCC) will be established (Figure 4.1). The JSCC will be jointly chaired by the WA DoT / NT DIPL State Maritime Environmental Emergency Coordinator (SMEERC) and Eni's CMT Leader. Figure 4.1 is the coordination structure provided in the WA Marine Oil Pollution Industry Guidance Note for coordinated response across Commonwealth Offshore and WA waters; however, the overall structure and approach is also applicable for response in NT waters and coordination with NT DIPL.

Western Australian Department of Transport

The WA DoT is the Hazard Management Agency for marine oil pollution in WA State waters. The DoT coordinates the State Response Team oil spill response personnel and equipment resources. In the event that an oil spill (for which Eni is the Combat Agency) impacts shorelines in WA the DoT will work with Eni in shoreline operations, and the WA DoT will define endpoints in liaison with Eni that are as low as reasonably practicable (ALARP).

If there is potential for an oil spill to intersect WA State waters, WA DoT will provide a representative to the Eni IMT to provide advice and support where necessary. MEE details the management arrangements for preparing for and responding to a marine oil pollution incident to minimise the effects of oil pollution occurring in State waters.

Also relevant are the State Hazard Plan for Hazardous Materials (SHP-HAZMAT) and WA Oiled Wildlife Response Plan (WAOWRP), administered by the Emergency Services to DFES and DPaW respectively.

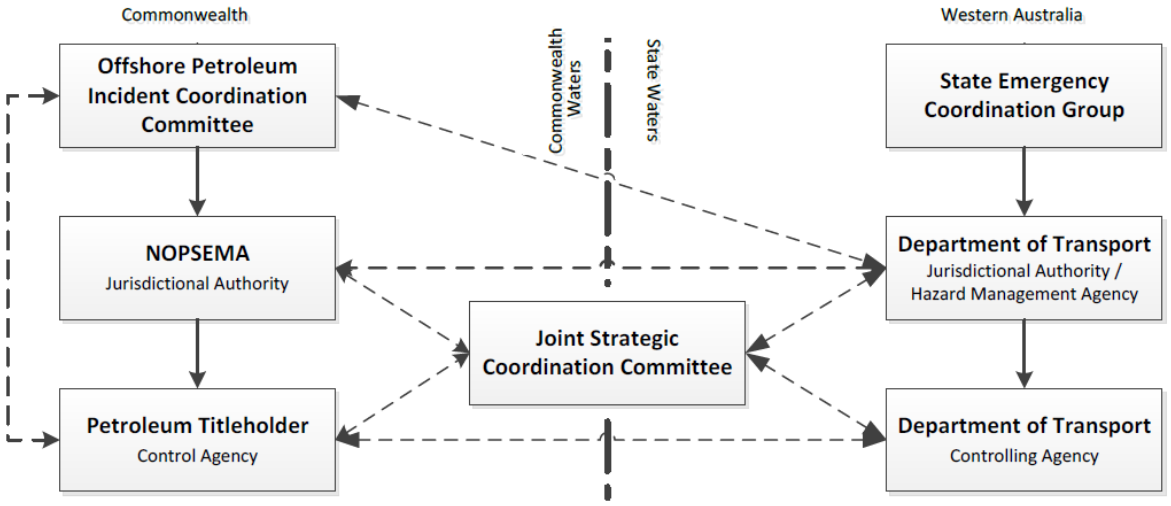


Figure 4.1: WA cross jurisdictional control agency coordination structure

Northern Territory Department of Transport

The NT DIPL through the DoT Marine Safety Branch is responsible for marine pollution prevention and response activities in the NT. The Marine Safety Branch administers the *NT Marine Pollution Act* (as in force October 2004). DIPL manages marine oil pollution response. The Marine Safety Branch on behalf of the NT DIPL is responsible for the NT Marine Pollution Contingency Plan which supports the NatPlan.

As Statutory Authority for marine oil pollution in NT waters, DIPL will:

- maintain an adequate level of response preparedness in the NT
- maintain the NT Plan
- monitor all spills and spill responses
- provide support to Combat Agencies
- coordinate the supply of NT equipment and personnel for oil spill response if required
- undertake investigations and prosecutions
- facilitate activation of suitable recovery procedures, including:
  - assisting in the recovery of costs on behalf of all participating agencies
  - facilitating damages claims from the public or commercial operators
  - coordinating the provision and deployment of NT equipment and personnel contributing to an interstate or Commonwealth response.

4.2.6 Oil Spill Response Ltd (OSRL)

Eni has access to additional oil spill resources through OSRL, which is based in Singapore and Southampton. An outline of the OSRL Service Level Agreement is provided in Table 4.4.

Anyone from Eni Australia can notify OSRL of an incident on the 24/7 Emergency Numbers detailed in Table 4.4. To avoid delays in accessing critical resources, OSRL will continue preparing for mobilization of requested resources but the mobilization of resources can only be confirmed by the Nominated Call-Out Authorities identified in xx.

Table 4.4: OSRL Service Level Agreement

Service	Service Standard
Response Notification Service / Advice	Available 24 hours a day, 365 days a year using contact details below. • During normal office hours, calls will be transferred directly to the OSRL Duty Manager • Out of hours, the switchboard will immediately make contact with the OSRL Duty Manager. The OSRL Duty Manager will call back within 10 minutes of receiving notification of the call. The DM will guide the caller to complete the Notification forms and Mobilization forms (see attached) as necessary, which can be sent to OSRL by fax or email. **Emergency Contact TELEPHONE**: Singapore +65 6266 1566; Southampton +44 2380 331551 **Emergency Contact FAX**: Singapore +65 6266 2312; Southampton +44 238072 4314
Guaranteed Response	OSRL retains sufficient types and quantities of response equipment to meet a wide range of oil spill scenarios. Access to this equipment is on a first come first served basis regardless of membership level.

Service	Service Standard
Dedicated Resources: Personnel	Personnel are on standby and available 24 hours a day, 365 days a year with equipment and logistics support to initiate, mobilise and sustain a response comprising of up to **18 fully trained and competent response personnel.** A second team is also available in the event of a further incident from another Member. The response team will be mobilised from within OSRL's global pool of expertise by applying reasonable endeavours to provide the most appropriate competence and experience as determined by the Member requirements. Due consideration will be given to response travel time, initial availability and continuity of response. **Technical Advice** On request and at its discretion, OSRL will dispatch a technical advisory and response expertise to support response to an incident or potential incident. This resource of up to **five personnel will be provided at no cost for the initial period normally of up to 5 days from arrival in-country**. A confirmatory exchange of emails will be sufficient to mobilise this team. If these personnel are retained after the free (5 day) period, a signed Mobilisation form will be required and these personnel will form part of the 18 person SLA entitlement. The skill set of the team will be determined by the specifics of the incident and needs. Typical initial roles of the team may include, but are not limited to the following tasks: • Technical advice and incident management coaching within the command centre • Development of an Incident Management Plan • Tier 1 / 2 equipment readiness and training of contractors • In-country logistics planning and support for inbound equipment • Impact assessment and advice on response strategy selection • SCAT and aerial surveillance / quantification surveys • Tactical response planning In the event that a full response is subsequently initiated, terms and conditions, including rates, will be as per the mobilising party's Participant or Associate Member Agreement. OSRL maintains a minimum pool of 80 dedicated response staff. Members are entitled to the number of response staff shown above, however, in the event that more are required, this may be approved on a case by case basis. If additional staffs are provided, it is on the condition that they may be recalled by OSRL in the event of a further incident response.
Dedicated Resources: Equipment	Response equipment is housed in secure facilities, customs cleared where required, ready for deployment. Equipment will be mobilised from the most appropriate location to provide the most timely and effective response.

Service	Service Standard
	Wide range of pre-packaged equipment suited to a range of spill scenarios, including access to stocks of various dispersant types stored throughout OSRL's main response bases. These stocks are separate to those accessed through individual supplementary agreements, such as the GDS (Global Dispersant Stockpile). Global aerial dispersant coverage is provided through a range of aerial platforms and application systems. • Senai, Malaysia: Hercules L-382 equipped with Rapid Installation Dispersant Delivery System (RIDDS). • Doncaster, UK: Boeing 727-252F jet aircraft with built in aerial dispersant spray system. Logistics support including: • Access to global cargo network via contracted broker for aircraft of opportunity or access to OSRL's dedicated dispersant aircraft, the most appropriate option will be agreed with the member • Vehicles and vessels for local equipment mobilisation • Access to aircraft of opportunity for passenger charter services through a contracted broker For an up-to-date list of OSRL equipment stocks, refer to www.oilspillresponse.com Access to equipment is restricted to 50% of the equipment by type available at the time of the request per member company. Additional equipment can be considered for release on request that is highly specialised or applicable to very specific response scenarios but may be subject to recall in the event of a further incident. An OSRL member may access 50% of the SLA dispersant stockpile. Access to more than 50% will be considered on a case by case basis and subject to the resupply of SLA dispersant stocks.
Oil Spill Trajectory and Tracking	3D and 2D modelling available on request providing trajectory, stochastic and backtrack modelling.
Satellite Surveillance	Access to satellite imagery on a global basis through the agreement with our dedicated satellite provider.
Oiled Wildlife Advice	Access to expert oiled wildlife advice via OSRL's contracted provider Sea Alarm Foundation (SAF).
Unmanned Aerial Vehicles	Access to unmanned aerial vehicles (UAVs) through strategic partnerships on a best endeavour basis.

Table 4.5: OSRL mobilisation & nominated call-out authority

Name	Position	Phone	Email
Ernie Delfos	Managing Director	0061 893201131 0061 477712024	ernie.delfos@eniaustralia.com.au
Salvatore Darsena	Deputy Managing Director	0061 893202639 0061 418296944	salvatore.darsena@eni.com
Keith Cook	HSE Manager	0061 893201184 0061 437254166	Keith.Cook@eniaustralia.au

5. ENI INCIDENT AND CRISIS MANAGEMENT STRUCTURE

5.1 ICM Organisational Structure

Eni's Incident and Crisis Management (ICM) organisation consists of the three core levels: Crisis Management Team (CMT), Incident Management Team (IMT) and Site Response. The principal duties of each level are shown in Figure 5.1

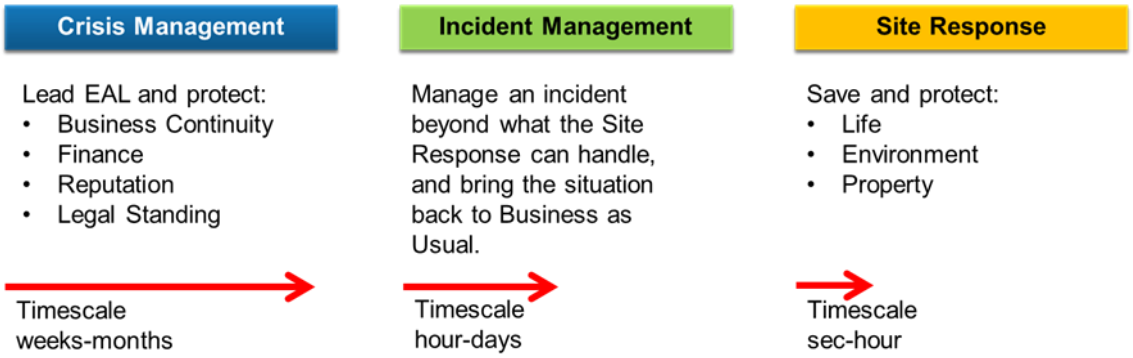


Figure 5.1: The ICM organisation's principal duties and timescales

5.2 Chain of Command

Eni's ICM Chain of Command is a three-level structure. This is represented in Figure 5.2.

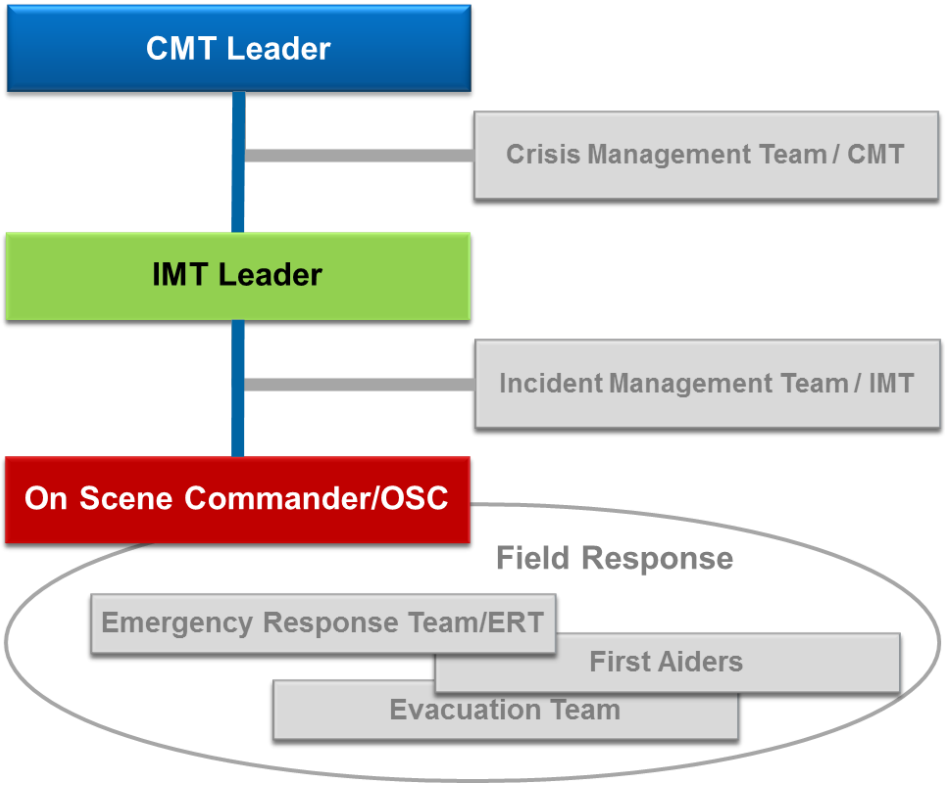
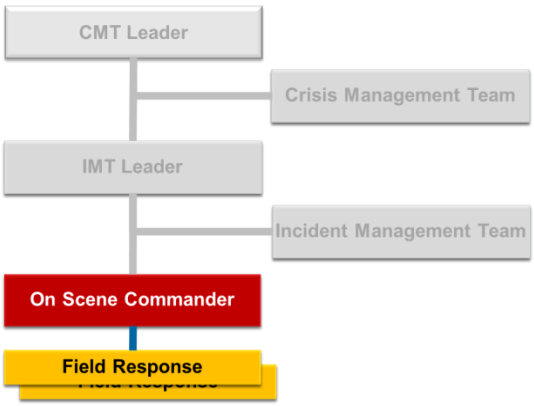


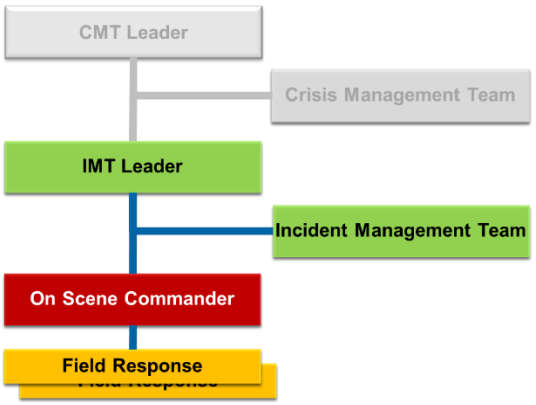
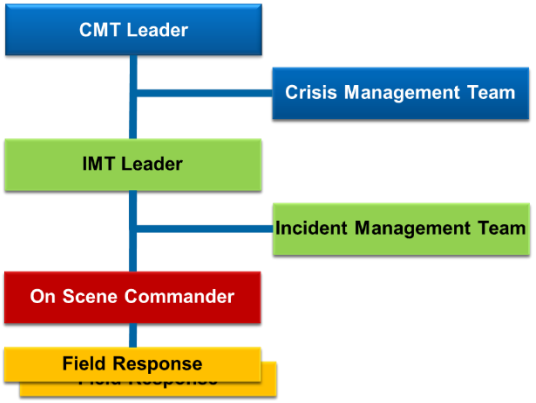
Figure 5.2: The ICM organisation's Chain of Command

5.3 Activation

Activation of the ICM organisation is to be executed in the following three steps (Table 5.1).

Table 5.1: Activation of levels in the ICM organisation

Severity Level	Activation & Notification	Illustration (Activated parts of the organisation in colour)
Pre-alarm Any event, strictly defined as a process safety event or event generated on the equipment/plant by natural risks, which does not lead to an emergency but is visible, audible or in any case noticeable by the population, Institutions, Administrations and Bodies responsible for health, safety and the environment and which may have a significant media impact at local or national level.	Operational response only IMT Informed	
Level 1 An event that can be managed at site level with the personnel and equipment available on site, under the responsibility of the Employer.	Planned tactical response only IMT informed	

Severity Level	Activation & Notification	Illustration (Activated parts of the organisation in colour)
Level 2 An event that can be managed at Subsidiary level under the responsibility of the Employer with assistance from the EAL IMT and from Authorities and public administrations at a local and regional level.	Planned tactical response IMT mobilised. Managing Director Eni Australia Limited informed CMT mobilised (MD Discretion)	
Level 3 An event that can be managed at Subsidiary level under the responsibility of the Employer with assistance from the EAL IMT, CMT, Eni Upstream Head Quarter ERT and from Authorities and public administrations at a local, regional and national level.	Planned tactical response IMT mobilised CMT mobilised Eni Headquarter (HQ) mobilised	

5.4 Site Response

Site or field response conducts the mitigation work and can involve Emergency Response Teams (ERTs), first aiders, evacuation team and oil spill response teams. On Scene Commander (OSC) is appointed by default as follows:

- Vessel Activities: Vessel Master
- Blacktip Operations: Plant Operations Superintendent (POS)
- Drilling Activities: Drilling Offshore Installation Manager (OIM).

All Eni staff and contractors must report spills or observations of oil or oily substances on the sea immediately to the OSC, who in turn will notify the Offshore Representative (drilling or vessels) and Duty Officer.

If a vessel spill is within 500 m of the WHP or MODU the Vessel Master will notify the Drilling OIM and/or POS.

Additional forward facilities may be established in the field to:

- On site response management;
- Deployment of equipment or personnel (staging areas for oiled wildlife response); or
- Provision of services (e.g. decontamination centres, canteens etc).

5.5 Location of the Incident Management Team

The IMT shall normally operate from the IMT room at Level 5; in the Perth Office. The team shall be able to operate with some of its members on remote locations.

The IMT shall also be equipped, trained and ready to operate from an alternative location as advised by the IMTL.

5.6 Incident Management Team

The structure of the IMT, including oil spill response support teams if required, is shown in Figure 5.3.

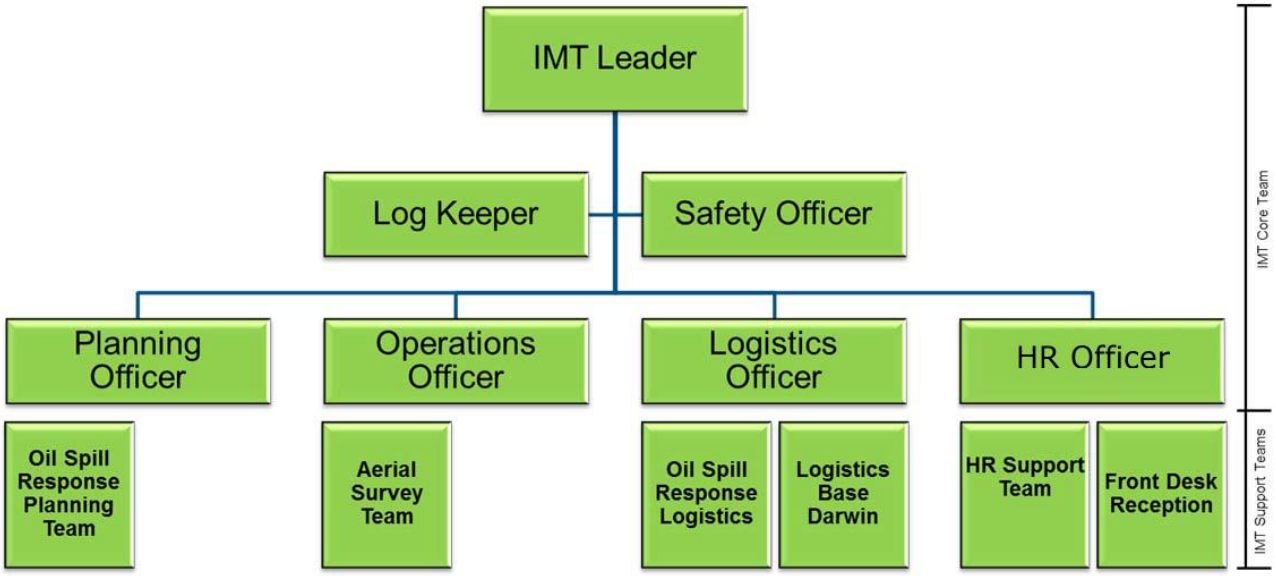


Figure 5.3: IMT and Support Teams for Oil Spill Response operation

5.6.1 Roles and Responsibilities

Table 5.2: Main responsibilities of key roles involved in an oil spill response

Role	Main Responsibility
Non IMT/CMT	
On Scene Commander (OSC) - POS (Operations) - OIM (Drilling) - Vessel Master (Vessel Activities)	• Assess facility-based situations / incidents and develop the incident action plan. • Single point of communications between facility/site/MODU and IMT. • Communicate the incident action plan and delegates actions to the Incident Coordinator. • Manage the incident in accordance with Blacktip Facility Incident Response Plan, Third Party Incident Response Plan. • Coordinate medical evacuations as required. • Make initial verbal notifications about incident. • Prepare POLREP form. • Submit POLREP form (Level 1 spills).
Vessel Master (note, may also have role of OSC)	• Make an initial evaluation of vessel-based spill, establish its level and assesses whether the incident has the potential to escalate. • Prepare and submit POLREP form. • Notify and report vessel-based spills to AMSA RCC. • Notify POS and/or Drilling OIM on spill if observed within 500m of the WHP or MODU.
Offshore Representative (vessel activities and drilling activities)	• Advise Duty Officer of vessel based or MODU spill incidents.
HSE & CSR Manager	• Ensuring annual oil spill response drills are undertaken • Ensuring the OPEP is maintained
Environment Advisor	• Oversight of operational and scientific monitoring • Support IMT in implementing this OPEP • Maintain the OPEP and communicating the requirements of the OPEP
IMT	
Duty Officer / Operations Officer	• Stand up satellite monitoring (KSAT). • Manage all activities and response to resolve the incident. • Point of communications between IMT and OSC/ERT.
IMT Leader	• Coordinate all onshore support in accordance with the OPEP. • Submit POLREP form (Level 2/3 spills).

Role	Main Responsibility
	• Set the response objectives and strategic direction.
	• Oversee the development and implementation of Incident Action Plans. • Oversee implementation of Memorandum of Understandings (MoUs) and contracted support for 'mutual aid'. • Ensure coordination with external organisations/police, etc. • Prepare and review strategic and tactical objectives with the CMT. • Liaise with the CMT and provide factual information.
Planning Officer	• Lead the Planning Team in interpreting existing response plans and the development of incident action plans and related sub plans. • Collect and document situational awareness information of the incident. • Develop, document, communicate and implement Incident Action Plans to achieve incident objectives. • Determine the status of action/s or planned activities under the Incident Action Plans and assess and document performance against the objectives. • Assess long term consequences of incident and plan for long term recovery.
Logistics Officer	• Lead the Logistics Team in relation to the provision of supplies to sustain the response effort. • Mobilise response equipment, helicopters, vessels, supplies and personnel. • Provide transport and accommodation for evacuated personnel. • Oversee the implementation of the Waste Management Plan throughout a Level 2 or Level 3 oil spill response. • Liaise with the Procurement Department to activate supply contracts and arrange procurements. • Coordinate authorities for search and rescue.
Log Keeper	• Ensure the IMT can communicate and operate. • Keep the IMT room sufficiently manned. • Distribute manuals, contact lists and supporting information to IMT personnel. • Record and collect all information associated with the response to the incident. • Maintain filing system for Incident Response.
Safety Officer	• Manage notification to Designated Safety Authorities and liaise as required. • Assist in the development of Incident Action Plans. • Oversee the development and implementation of incident Safety Management Plans as required.

Role	Main Responsibility
HR Officer	• Health and wellbeing of Eni personnel. • Coordinating labour hire. • Areas of management include Security, Health, Relative Response, HR Support Services, HR Planning and Next of Kin.
Personnel available to join DoT WA DoT / NT DIPL CMT/IMT	
CMT Liaison Officer	• Provide a direct liaison between the CMT and the Maritime Environmental Emergency Coordination Centre (MEECC) – refer to Section 5.7. • Facilitate effective communications and coordination between the CMT Leader and SMEERC. • Offer advice to SMEERC on matters pertaining to Eni's crisis management policies and procedures.
IMT Liaison Officer	• Provide a direct liaison between Eni's IMT and WA DoT / NT DIPL IMT. Facilitate effective communications and coordination between Eni's IC and the WA DoT / NT DIPL IC.
	• Offer advice to the WA DoT / NT DIPL IC on matters pertaining to Eni's incident response policies and procedures. • Offer advice to the Safety Coordinator on matters pertaining to Eni's safety policies and procedures, particularly as they relate to Eni's employees or contractors operating under the control of the WA DoT / NT DIPL IMT.

5.7 Coordination with Other Organisations

Contact and coordination with other organisations and public authorities shall be managed in accordance with the HSE EAL Incident Management Plan ENI-HSE-PL-034. A summary is provided below.

5.7.1 Advisory Capacity

Technical advisors from AMOSC, AMSA and or OSRL would be embedded in the IMT in an advisory capacity (unless where specifically engaged to fill an IMT role).

Where appropriate, technical advisors may also be embedded within the Planning or Operations function.

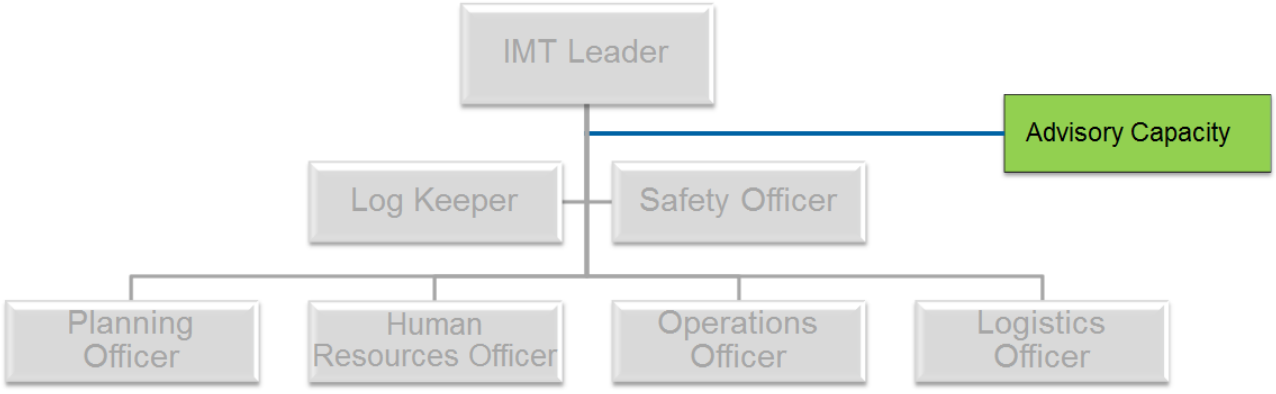


Figure 5.4: Advisory capacity to IMT

5.7.2 Off Scene Liaison

Liaison officers may be mobilised to third party ICM systems of Contractors or Government Agencies where required/requested.

The CMTL and IMTL will appoint Liaison Officers (LO) (not one of the CMT/IMT members), who will be embedded within the third party CMT/IMT and act as the point of contact between Eni and third party CMT/IMTs.

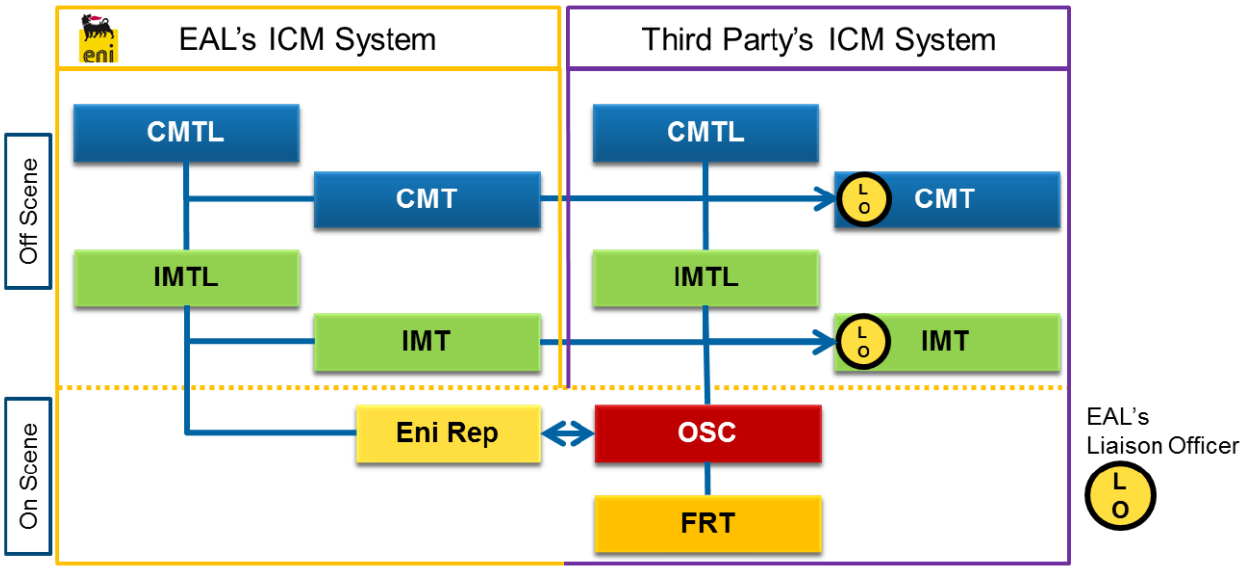


Figure 5.5: Principle of liaison when another organisation is the Controlling Agency

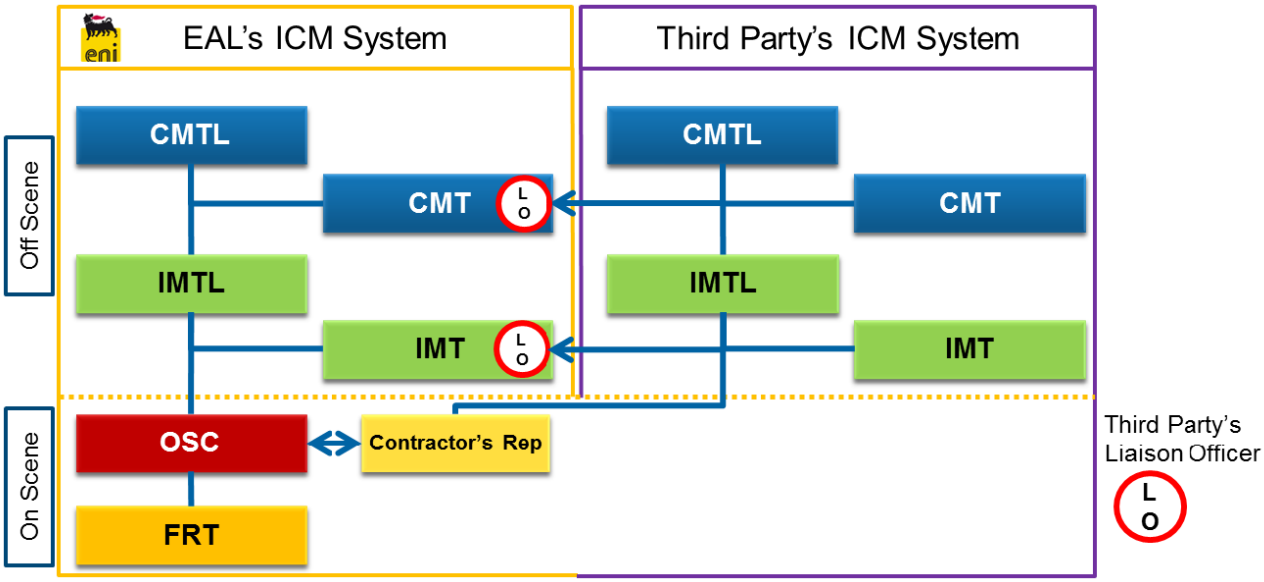


Figure 5.6: Principle of liaison when EAL is the Controlling Agency

5.7.3 WA Department of Transport

The WA DoT Industry Guidance Note for Marine Oil Pollution outlines arrangements for deployment of liaison officers between DoT's MOP IMT and the titleholder IMT. This is particularly relevant to responses involving source control or relief well drilling, which are outside DoT scope of control.

The initial number of Eni and DoT personnel deployed to the other's respective IMT and the role they will be expected to fulfil is outlined in Table 5.3. A minimum of three Eni Liaison officers are required to fill key roles:

- CMT Liaison Officer;
- Public Information Support and Media Liaison Officer; and
- Deputy Finance Officer.

The other roles can be filled by Eni personnel or personnel from AMOSC or the Core Group.

Table 5.3: DoT IMT Personnel Requirements from Eni

Area	Role	Representation
DoT MEECC	CMT Liaison Officer	Senior Eni representative
DoT IMT Incident Control	Deputy Incident Controller	Eni/AMOSC/Core Group representative
DoT IMT Planning – Intelligence/mapping	Intelligence Support Officer	Eni /AMOSC/Core Group representative
DoT IMT Planning – Plans/Resources	Deputy Planning Officer Strong knowledge of the OPEP required	Eni /AMOSC/Core Group representative
DoT IMT Planning - Environment	Environmental Support Officer	Eni /AMOSC/Core Group representative
DoT IMT Public Information – Media/Community Engagement	Public Information Support and Media Liaison Officer	Eni representative
DoT IMT - Logistics	Deputy Logistics Officer	Eni /AMOSC/Core Group representative
DoT IMT – Logistics – Facilities	Facilities Support Officer	Eni /AMOSC/Core Group representative
DoT IMT Finance – Accounts/Financial Monitoring	Deputy Finance Officer	Eni representative
DoT Forward Operating Base (FOB) Operations Command	Deputy on Scene Commander	Eni /AMOSC/Core Group representative

5.8 Management of Public Information

Public information will be managed in accordance with the EAL Incident Management Plan ENI-HSE-PL-034 and Eni's Press Release Process.

Decision on Information Strategy as well as all media contacts, whether active or passive contacts, and all press releases shall be determined in the CMT, if CMT is activated, and if not, by HSE & CSR Manager.

6. IDENTIFIED SPILL RISKS

6.1 Credible Spill Scenarios

Unplanned loss of containment events from the Petroleum Activities Program have been identified during the risk assessment process (presented in Section 8 of the Blacktip Offshore Operations EP 000036_DV_EX.HSE.0677.000).

Table 6.1 presents the credible spill scenarios from the Petroleum Activities Program. The worst case credible scenario is used for determining the applicable response strategies, detailed in Section 8 – all other scenarios are of a lesser scale and extent.

Table 6.1: Credible hydrocarbon spill scenarios

Spill scenario	Hydrocarbon type	Activity	Maximum credible volume	Release duration	Spill modelling conducted
Loss of well control during drilling of the P3 development resulting in a long-term uncontrolled surface release	Blacktip condensate	Drilling	4,943 m^3	74 days	Yes
Loss of well control during production operations from the P1, P2 or P3 (when online) wells resulting in a long-term uncontrolled surface release	Blacktip condensate	Operations	4,943 m^3	74 days	Yes
Loss of well control as a result of an explosion / fire scenario resulting in short term surface release and a long-term uncontrolled subsea release	Blacktip condensate	Drilling and Operations	4,943 m^3	Short term 3 days Long-term 71 day uncontrolled	Yes
Refuelling incident due to fuel hose failure / rupture, coupling failure or tank overfilling	Marine Gas Oil (MGO) /Marine Diesel Oil (MDO)	Drilling and Operations	37 m^3	Instantaneous	No
Vessel collision resulting in fuel tank rupture and release of MDO/MGO	MGO/MDO	Drilling and Operations	100 m^3	Instantaneous	Yes (adios modelling)

Spill scenario	Hydrocarbon type	Activity	Maximum credible volume	Release duration	Spill modelling conducted
A failure of the CEP upstream of the PLEM during a condensate export operation	Blacktip condensate	Operations	250 m^3	24 hours (10.4 m^3/hr)	Yes
A failure of floating or submarine flexible hose at SPM (downstream of PLEM)	Blacktip condensate	Operations	126 m^3	24 hours (10.4 m^3/hr)	No
A subsea leak during operations through a <50 mm hole at any point within Commonwealth waters along the GEP	Blacktip condensate	Operations	150 m^3	1 week	No
Hydrocarbons, hydraulic fluid and bulk chemicals / fluids minor spill/leaks	Hydraulic oil / lubricating fluids	Operations	< 10 m^3	Instantaneous	No

6.2 Hydrocarbon Characteristics and Behaviour

Two types of hydrocarbons may be accidently spilled during activities:

- Blacktip condensate
- MGO or MDO from vessels

6.2.1 Blacktip condensate

Table 6.2 and Table 6.3 show the physical characteristics and boiling point ranges for Blacktip Condensate, respectively. The hydrocarbon property category and hydrocarbon persistence classification were derived from AMSA (AMSA, 2015a) guidelines. The classification is based on a hydrocarbon's specific gravity in combination with relevant boiling point ranges.

Table 6.2: Physical properties of Blacktip Condensate (Intertek, 2009)

Physical Properties	Blacktip Condensate
Density (kg/m^3)	790.0 (at 15 °C)
API	46.7
Dynamic viscosity (cP)	0.975 (at 20 °C)
Pour point (°C)	-36.0
Hydrocarbon property category	Group I
Hydrocarbon persistence classification	Non-persistent

Table 6.3: Boiling-point breakdown of Blacktip Condensate (Intertek, 2009)

Oil Type	Volatiles (%)	Semi-Volatiles (%)	Low Volatiles (%)	Residual (%)	Aromatics (%)
Boiling point (°C)	<180 C4 to C10	180 - 265 C11 to C15	265 - 380 C16 to C20	>380 >C20	Of whole oil <380 BP
	Non-persistent			Persistent	
Blacktip Condensate	63.6	35.0	0.4	1.0	15.8

Blacktip Condensate (API 46.7) contains a low proportion (1% by mass) of hydrocarbon compounds that will not evaporate at atmospheric temperatures. These compounds will persist in the marine environment. The whole condensate has low asphaltene content (<0.5%), indicating a low tendency for the hydrocarbons to take up water to form water-in-oil emulsion over the weathering cycle.

A weathering study on Blacktip condensate by Intertek in 2013 showed that the rate of evaporation of Blacktip condensate is rapid with 67 % of the volume of the condensate is lost within the first 2 hours and 89 % by 8 hours. Between 8 and 72 hours only a further 7% is lost reaching a maximum weathering at 72 hours of 95 % lost volume (Intertek, 2013).

6.2.2 MGO or MDO

Marine gas oil (MGO) describes distillate fuels. Marine diesel describes marine fuels that are composed of various blends of distillate fuel and heavy fuel oil, and is therefore sometimes referred to as 'intermediate fuel oil' (IFO). Given MGO is similar to the lighter component of MDO, the impacts of an MGO spill are considered to be within the envelope of an MDO spill. Therefore the following section will focus on MDO.

AMOSC (2011) categorises MDO as a light group II hydrocarbon (Table 6.4). MDO is a mixture of volatile and persistent hydrocarbons, with a low percentage of volatile C4 to C10 hydrocarbons (6%) and a greater proportion moderate to very low volatile C11 to C20 hydrocarbons (89%). In the marine environment, a small residual volume (5%) of the total quantity of MDO spilt may remain after the volatilisation and solubilisation processes associated with weathering. The heavier (low volatile) components of the oil have a tendency to entrain into the upper water column due to wind-generated waves, but can subsequently resurface if wind waves abate.

Table 6.4: Characteristics of MDO

Hydrocarbon	MDO		
Initial density	0.83678 g/cm^3 (150 °C)		
Hydrocarbon Component	**Hydrocarbon Boiling Point Ranges (carbon chain range in parenthesis)**		**% of Total**
Volatiles	**Non-Persistent**	<180 °C (C4 to C10)	6.0 %
Semi-Volatiles		180–265 °C (C11 to C15)	34.6 %
Low Volatility		265–380 °C (C16 to C20)	54.4 %

Residual	**Persistent**	>380 °C (>C20)	5.0 %
Aromatics	<380 °C (whole oil)		3.0 %

6.3 Response Planning Thresholds for Surface and Shoreline Hydrocarbon Exposure

As thresholds to determine the ZPI (Figure 6.1) are used to predict and assess environmental impacts (further detailed in Section 8.5 of the EP), additional thresholds have also been modelled for comparison with response planning requirements, to determine areas where response strategies would be most effective.

The following information is derived from oil spill response planning literature and industry guidance, and supports the selection of the response planning thresholds presented for this Petroleum Activity. The thresholds used for response planning are summarised in Table 6.5.

Table 6.5: Hydrocarbon thresholds for response planning

Hydrocarbon threshold (g/m²)	Description	Response Planning Literature
>10	Predicted minimum threshold for commencing operational monitoring, scientific monitoring and protection and deflection.	The 10 g/m² threshold has been selected to define the minimum threshold for visibility of the hydrocarbon, dull metallic colours as per the Bon Agreement Oil Appearance Code.
50	Predicted minimum floating oil threshold for containment and recovery, dispersant application.	Containment and recovery and dispersant are not used for this activity. Refer to the NEBA section in Section 8.6 of the Blacktip Operations EP for further justification.

Hydrocarbon threshold (g/m²)	Description	Response Planning Literature
100	Predicted minimum shoreline accumulation threshold for shoreline assessment and shoreline clean-up operations.	Recommended in AMSA's foreshore assessment guide as the acceptable minimum thickness that does not inhibit the potential for recovery, concentration below this threshold is best remediated by natural coastal processes alone (AMSA, 2015b). Cleaning the shoreline below this threshold may result in damage to the shoreline. Owens and Sergy (1994) define accumulated hydrocarbon <100 g/m^2 to have an appearance of a stain on shorelines. French-McCay (2009) defines accumulated hydrocarbons ≥100 g/m^2 to be the threshold that could impact the survival and reproductive capacity of benthic epifaunal invertebrates living in intertidal habitat

Note that thresholds for surface oil do not exceed 50 g/m^2. Therefore, protection and deflection, containment and recovery and surface dispersant application is not presented in this OPEP.

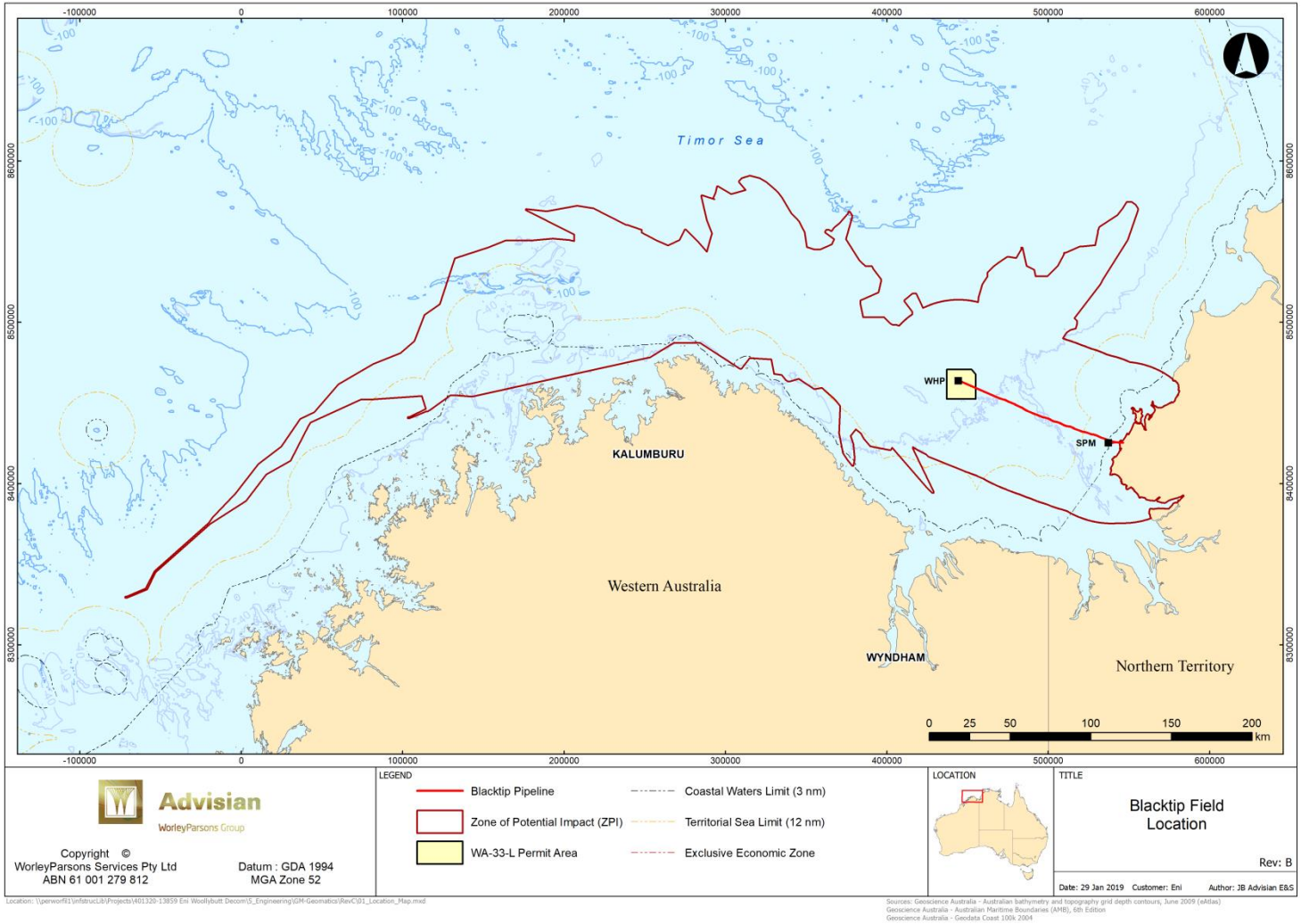


Figure 6.1: ZPI for Blacktip Petroleum Activities Program

6.4 Spill Trajectory Modelling and Sensitive Receptors

To inform the risk assessment process, spill modelling has been conducted to identify the spill trajectory for the WCCS:

- Long-term (74 days) surface blowout of 4,943 m3 of Blacktip Condensate at the Blacktip P3 Development Well during drilling or production operations.
- 24-hour release of 250 m^3 of Blacktip Condensate at the SPM

Oil spill modelling was undertaken using a three-dimensional oil spill trajectory and weathering model, SIMAP (Spill Impact Mapping and Analysis Program), which is designed to simulate the transport, spreading and weathering of specific oil types under the influence of changing meteorological and oceanographic forces. An even number of replicates were completed using samples of metocean data that commenced within each calendar quarter (at least 25 simulations per quarter), run over an annual period. Further details relating to the assessments for the scenarios can be found in Section 8 of the EP and summarised below.

6.4.1 Floating and Shoreline Oil

Surface blowout of 4943 m^3 of Blacktip Condensate at the Blacktip P3 Development Well

Hydrocarbons are predicted to remain relatively localised around the release location, with very low probabilities of contact to the nearest shoreline receptors (1%). The maximum distance to the outer extent of the 1 g/m^2 is predicted to be 19 km. Floating oil concentrations are not predicted to exceed 10 g/m^2 and 25 g/m^2 thresholds at probabilities greater than 1%.

Kimberley Coast, Joseph Bonaparte Gulf East and Joseph Bonaparte Gulf West receptors are predicted to have a 1% probability of receiving shoreline oil at 10 g/m^2, with corresponding minimum times of arrival forecast as 1,130 hours (47 days), 1,194 hours (50 days) and 2,049 hours (85 days), respectively. Table 6.6 presents floating and shoreline oil outcomes at sensitive receptors.

Table 6.6: Expected annualised floating and shoreline oil outcomes at sensitive receptors resulting from a 74-day surface release of Blacktip Condensate at the Blacktip P3 Development Well (APASA, 2019)

Receptor	Maximum local accumulated concentration (g/m^2) in the worst replicate spill	Maximum accumulated volume (m^3) along this shoreline, in the worst replicate simulation
Joseph Bonaparte Gulf East	61	10
Joseph Bonaparte Gulf West	11	<1
Kimberley Coast	26	<1

24-hour release of 250 m³ of Blacktip Condensate at the SPM

Surface oil at 10g/m² offshore occurring up to 10km from the release site and is predicted to remain and is transported towards the north on the ebb and south on the flood tide. Floating oil was not predicted to exceed 1 g/m² after 32 hours from the spill commencement respectively. The model showed that slicks may accumulate on both the eastern and western shorelines of the JBG, with a maximum accumulation of 2.5 m³ on the eastern side, and 0.6 m³ on the western side during the months of September and March and a maximum accumulation 2m³ at JBG East during the months of April and August. The earliest time for contact to this receptor is 2 hours. The maximum accumulated shoreline concentration at any site during any season is predicted to be 59 g/m² at the JBG east coast.

Receptor	Maximum local accumulated concentration (g/m²) in the worst replicate spill	Maximum accumulated volume (m³) along this shoreline, in the worst replicate simulation
Joseph Bonaparte Gulf East	59	2.5
Joseph Bonaparte Gulf West	1.8	0.6

100m³ MGO/MDO release from a vessel collision

In addition to the above, estimates of the fate of 100m³ of MGO released to the marine environment as a result of a loss of MGO / MDO due to a vessel collision were assessed using the modelling program ADIOS II.

Modelling suggests that the surface life for an instantaneous MGO / MDO spill of 100 m3 from a vessel collision incident is estimated at 8 hours. Using guidance supplied by International Tanker Owner Pollution Federation (ITOPF) (2011) in this time, surface MGO may travel up to 35 km, based on an estimate in which the surface spill will travel at 100% of the speed and direction of ambient currents, and 3% of speed and direction of local winds.

Given the proximity of the Operational Area to land, shoreline contact is possible, with a maximum volume potentially stranded of 60m³ on Joseph Bonaparte Gulf (JBG) east shoreline, within 2 hours of release.

6.4.2 Subsurface – Entrained Oil

A surface blowout of 4,943 m³ of Blacktip Condensate at the Blacktip P3 Development Well

Entrained oil concentrations at or greater than 100 ppb could travel up to 310 km from the release location. Concentrations not predicted to exceed 500 ppb. Probability contours calculated for entrained oil at or greater than 100 ppb reveal that oil will typically migrate in longshore directions towards Darwin to the north and Broome to the south, with each of these opposing trajectories more likely in certain seasons.

The probabilities of contact by entrained oil concentrations are predicted to be greatest at the Carbonate Bank and Terrace System of the Sahul Shelf KEF (4% at 100 ppb), Joseph Bonaparte Gulf AMP (1% at 100 ppb), Kimberley AMP (1% at 100 ppb) and the Kimberley Coast (1% at 100 ppb) (Table 6.7).

Table 6.7: Expected annualised entrained oil outcomes at sensitive receptors resulting from a 74-day surface release of Blacktip Condensate at the Blacktip P3 Development Well (APASA, 2019)

Receptor	Probability (%) of entrained hydrocarbon concentration contact at ≥100 ppb	Minimum time to receptor waters (hours) at ≥100 ppb	Maximum entrained hydrocarbon concentration (ppb), at any depth in worst case replicate
Carbonate Bank and Terrace System of the Sahul Shelf KEF	4	34	256
Joseph Bonaparte Gulf AMP	1	319	186
Kimberley AMP	1	1077	104
Kimberley Coast	1	671	110

24-hour release of 250 m³ of Blacktip Condensate at the SPM

Entrained oil plumes with concentrations exceeding 100 ppb and 500 ppb are forecast to extend up to 25 km and 5 km from the release site, respectively. The most likely trajectory of entrained oil plumes is to the north or south of the release site, advected by the dominant tidal currents. Probability of shoreline from entrained oil concentrations greater than 100ppb was predicted within 1 hour (Table 6.8).

Table 6.8: Expected entrained oil risks to shallow waters adjacent to receptors from a short-term (24 hour) 250 m³ sub-surface release of Blacktip condensate from Blacktip SPM (APASA, 2013)

Receptor	Probability (%) of entrained oil concentration contact > 100 ppb	Minimum time to nearshore waters (hours) at > 100 ppb	Maximum entrained oil concentration (ppb), at any depth, in the worst replicate
Joseph Bonaparte Gulf East	20 (April and August) 26 (September and March)	1 (April and August 1 (September and March)	1,262 (April and August) 1,266 (September and March)

6.4.3 Dissolved Aromatic Hydrocarbons

A surface blowout of 4,943 m3 of Blacktip Condensate at the Blacktip P3 Development Well

Dissolved aromatic hydrocarbon concentrations at or greater than 6 ppb could travel up to 532 km from the release location. The probability contours calculated for dissolved aromatic hydrocarbons reveal that the directions of travel follow those of the entrained oil.

The probabilities of contact by dissolved aromatic hydrocarbon concentrations are predicted to be greatest at the Carbonate Bank and Terrace System of the Sahul Shelf KEF, Joseph Bonaparte Gulf AMP, Joseph Bonaparte Gulf West and Kimberley AMP with probabilities of 28%, 3%, 1% and 1% at the 6 ppb threshold, respectively (Table 6.9).

Table 6.9: Expected annualised dissolved aromatic hydrocarbon outcomes at sensitive receptors resulting from a 74-day surface release of Blacktip Condensate at the Blacktip P3 Development Well (APASA, 2019)

Receptor	Probability (%) of dissolved aromatic hydrocarbon concentration contact at >6ppb	Maximum entrained hydrocarbon concentration (ppb), at any depth in worst case replicate
Carbonate Bank and Terrace System of the Sahul Shelf KEF	28	44
Joseph Bonaparte Gulf AMP	3	20
Joseph Bonaparte Gulf West	1	7
Kimberley AMP	1	26

24-hour release of 250 m^3 of Blacktip Condensate at the SPM

Plumes of dissolved aromatic hydrocarbons with concentrations exceeding 6 ppb are forecast to potentially extend up to 25 km from the release site. Dissolved aromatic hydrocarbon concentrations are not expected to exceed 400 ppb. Northerly and southerly trajectories are most likely.

Nearshore contact to the Joseph Bonaparte Gulf East receptor is forecast for dissolved aromatic hydrocarbon concentrations exceeding 6ppb at a probability of 61% (Table 6.10).

Table 6.10: Expected Dissolved Aromatic Hydrocarbons risks to shallow waters adjacent to receptors from a short-term (24 hour) 250 m^3 sub-surface release of Blacktip condensate from Blacktip SPM (APASA, 2013)

Receptor	Probability (%) of dissolved aromatic concentration > 6 ppb	Maximum dissolved aromatic hydrocarbon concentration (ppb), at any depth, in the worst replicate
Joseph Bonaparte Gulf East	61 (April and August) 56 (September and March)	98 (April and August) 107 (September and March)

7. NET ENVIRONMENTAL BENEFIT ANALYSIS

7.1 Pre-operational NEBA

A NEBA has been conducted to assess the net environmental benefit of different response strategies at locations identified in the oil spill modelling. The assessment of effectiveness and positive and negative impacts summarised in Table 7.1 was used to determine the net benefit of each response strategy. These include receptors that have potential for:

- surface contact (>10 g/m²)
- shoreline accumulation (>0 g/m²)

The pre-operational NEBA is provided in Section 8.10.3 of the EP. Based on the identified spill risks for Petroleum Activities Program, the available oil spill response strategies have been adopted or rejected through assessment of hydrocarbon type and WCCS, as summarised in Table 7.1 below.

The effectiveness and positive and negative impacts for each response strategy, for MDO/MGO and Blacktip Condensate, was assessed in Section 10 of the EP.

Table 7.1: NEBA summary and response option considerations

Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
Source control	Subsea Well Intervention	The Blacktip wellheads are located on the WHP and the drilling of the Blacktip well is through an existing slot on the WHP. No wellheads are on the seabed. Subsea intervention operations are therefore not applicable.	**Blacktip condensate**	**Reject**
			MGO / MDO	**Reject**
	Deployment of subsea first response toolkit	Subsea first response equipment has the ability to clean around the well and prepare for relief well drilling and installation of a capping device The wellheads for the Blacktip production wells (and the drilling of P3) are located on the WHP and are therefore surface wellheads. All equipment listed as Subsea First Response Toolkit (SFRT) cannot be used for surface spill response. In the event that the WHP collapses and the there is an uncontrolled subsurface release the well will have no wellhead and no BOP (these would have been lost during platform collapse) and will be flowing through an open hole via the conductor on the seabed.	**Blacktip condensate**	**Reject**
			MGO / MDO	**Reject**
	Installation of a capping stack	A capping stack is designed to be installed on a subsea well and provides a temporary means of sealing the well, until a permanent well kill can be performed through either a relief well or well re-entry The wellheads for the Blacktip production wells (and the drilling of P3) are located on the WHP and are therefore surface wellheads. The capping stack is not suitable for use above sea level. the event that the WHP collapses and the there is an uncontrolled subsurface release the well will have no wellhead and no BOP (these would have been lost during platform collapse) and will be flowing through an open hole via the conductor on the seabed. There is an operational need that the stack is able to attach and seal on a subsea well during a well blowout, then shut it in safely. To achieve this, a mandrel or hub profile must be exposed (either at the wellhead or on	**Blacktip condensate**	**Reject**
			MGO / MDO	**Reject**

Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
		top of the BOP). This will not be available in the event that the WHP collapses, therefore the use of the capping stack is not applicable.		
	Drilling a relief well	Applicable to all loss of well control, including: • Loss of well control during drilling of the P3 development resulting in a long-term (74-day) uncontrolled surface release of 4,943 m^3 Blacktip condensate • Loss of well control during production operations from the P1, P2 or P3 (when online) wells resulting in a long-term (74-day) uncontrolled surface release of <4,943 m^3 Blacktip condensate • Loss of well control during drilling or production operations as a result of an explosion / fire scenario resulting in short term (3-day) surface release and a long-term (71-day) uncontrolled subsurface release of 4,943 m^3 Blacktip condensate The drilling of relief well is considered to be the primary control in event of a loss of well control and will be implemented regardless of any other controls in place. This control when implemented successfully will prevent further loss of hydrocarbon to the environment.	**Blacktip condensate** **MGO / MDO**	**Adopt** **Reject**
	Vessel SOPEP	Applicable to diesel spills from vessels only. • Vessel collision resulting in fuel tank rupture and release of MGO/MDO releasing a maximum volume 100 m^3; • Refuelling SOPEP is the procedure for responding to a ruptured fuel tank or bunkering incident.	**Blacktip condensate** **MGO / MDO**	**Reject** **Adopt**
Monitor and evaluate	Monitor and evaluate is used to predict and monitor the trajectory and fate of the spill,	Applicable to • All spill scenarios	**Blacktip condensate**	**Adopt**

Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
	to determine the effectiveness of response strategies and to identify and report on any potential/actual contacts to sensitive receptors, that occurs.	There are various specific techniques (vessel/aerial surveillance, oil spill modelling) within this response strategy which may be suitable. Use will be based on the spill fate / volumes as well as other considerations such as access to locations and environmental / metocean conditions. Monitor and evaluate is used to inform further response planning and execution and the operational NEBA.	**MGO / MDO**	**Adopt**
Subsea chemical dispersant	Subsurface chemical dispersant involves dispersant applied directly into the wellhead location at the release point. Subsea chemical dispersant injection is used to disperse the oil either to enable safe implementation of the subsequent controls.	Wellheads are located on the WHP and therefore subsea chemical dispersion is not applicable.	**Blacktip condensate**	**Reject**
			MGO / MDO	**Reject**
Surface chemical dispersion	Chemical dispersant is applied to break down the hydrocarbons and allow/enhance dispersion into the water column, thereby preventing/reducing potential shoreline contact and increasing biodegradation.	Diesel and condensates are not conducive to chemical dispersion due to rapid evaporation and low surface concentrations. In addition, a weathering study on Blacktip condensate by Intertek in 2013 showed that the rate of evaporation of Blacktip condensate is rapid with 67 % of the volume of the condensate is lost within the first 2 hours and 89 % by 8 hours. Between 8 and 72 hours only a further 7% is lost reaching a maximum weathering at 72 hours of 95 % lost volume (Intertek, 2013).	**Blacktip condensate**	**Reject**
			MGO / MDO	**Reject**
Physical dispersion	Physical dispersion is undertaken by running vessels through the hydrocarbon plume and using the turbulence developed by the propellers or hydro-blasting from vessel hydrants to break up the slick. The process enhances dispersion.	Diesel and Blacktip condensate are not conducive to physical dispersion due to low surface concentrations. Surface hydrocarbons in the event of a 250bbl per day leak were not expected to exceed 10 g/m^2. Surface hydrocarbons in the event of a 900bbl per day well-blowout were only expected to exceed 10 g/m^2 in the immediate vicinity of the well.	**Blacktip condensate**	**Reject**
			MGO / MDO	**Reject**

Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
Containment and recovery	Containment and recovery of hydrocarbons can offer a preventive form of protection to sensitive receptors. Skimmers (mechanical) and booms will be used at sea. This strategy is only effective in calm conditions.	Diesel and Blacktip condensate are not conducive to physical dispersion due to low surface concentrations. Containment and recovery is effective on oil concentrations >50 g/m^2. Surface oil concentrations from a well blowout of 4,943 m^3 Blacktip condensate are not predicted to exceed 10 g/m^2 and 25 g/m^2 thresholds at probabilities greater than 1%. The maximum distance to the outer extent of the 1 g/m2 is predicted to be 19 km. Containment and recovery is therefore not effective. Floating oil concentrations from a 250m^3 condensate release at the SPM was not predicted to exceed 1 g/m^2 after 32 hours from the spill commencement respectively. Containment and recovery is not effective on MGO / MDO due to its rapid evaporation.	**Blacktip condensate**	**Reject**
			MGO / MDO	**Reject**
Protection and deflection	Protection and deflection activities involve the use of booms to deflect spills away from sensitive receptors and deflect spills to an area that provides increased opportunity for recovery activities.	Protection and deflection is effective on oil concentrations >10 g/m^2. Floating oil concentrations from a well blowout of 4,943 m^3 Blacktip condensate are not predicted to exceed 10 g/m^2 and 25 g/m^2 thresholds at probabilities greater than 1%. The maximum distance to the outer extent of the 1 g/m^2 is predicted to be 19 km. In the low likelihood that sufficient concentrations occur, they would be localised to the well blow out location, thereby making response activities potentially unsafe. Concentrations would not remain above threshold concentrations for only short durations due to volatility of product. Floating oil concentrations from a 250m^3 condensate release at the SPM was not predicted to exceed 1 g/m^2 after 32 hours from the spill. Additionally, there are no particular sensitive receptors in the ZPI that require or are defensible by protection and deflection. Protection and deflection is therefore not recommended for Blacktip condensate releases. Diesel is not conducive to protection and deflection due to high evaporation potential and resultant low surface concentrations.	**Blacktip condensate**	**Reject**
			MGO / MDO	**Reject**
Shoreline clean-up	During a spill response, clean-up of the oiled shorelines will be	Applicable to:	**Blacktip condensate**	**Adopt**

Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
	implemented using suitable methods, provided it will be beneficial to the environment based on the NEBA performed on the affected areas based on actual site conditions.	• A failure of the CEP upstream of the PLEM during a condensate export operation releasing a volume of 250 m^3 over a 24-hour period (10.4 m^3/hr); • Vessel collision resulting in fuel tank rupture and release of MGO/MDO releasing a maximum volume 100 m^3; Shoreline accumulation is not expected to exceed 100 g/m^2 from a vessel fuel spill, however a shoreline assessment will inform whether a response is required. There is no shoreline accumulation from a well-blowout event. In the event of a 250 m^3 Blacktip condensate spill over a 24-hour period from the SPM a maximum of 2.5 m^3 and 0.6 m^3 may accumulate on the JBG East and JBG West receptors respectively. In the event of a diesel spill releasing 100m^3, the largest volume potentially stranded on shore is 60m^3. A shoreline assessment will advise whether there is any clean-up potential for any shoreline accumulation volumes. Natural collection points along the coastline will be the focus of the shoreline clean-up.' Contacted shorelines will be assessed for their shoreline clean-up potential based on an Operational NEBA (informed by the shoreline assessment). The clean-up can have the potential to remediate the shoreline quicker than if being left to natural remediation. If turtle or seabird nesting season, there may be less impact not undertaking shoreline clean-up	**MGO / MDO**	**Adopt**
Oiled wildlife response (OWR)	Oiled wildlife response aims at preventing wildlife from becoming oiled and/or the treatment of animals that do become oiled.	Applicable to: • A failure of the CEP upstream of the PLEM during a condensate export operation releasing a volume of 250 m^3 over a 24-hour period (10.4 m^3/hr);	**Blacktip condensate**	**Adopt**

Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
		• A subsea leak during operations through a >50 mm diameter hole at any point within Commonwealth waters along the GEP due to corrosion releasing <50m^2 of condensate; • Vessel collision resulting in fuel tank rupture and release of MGO/MDO releasing a maximum volume 100 m^3; The JBG coast and the Kimberley north shorelines have the potential for shoreline contact from hydrocarbons. Both shorelines have been identified as having potential wildlife inhabiting them. Mobilisation of experts, trained work forces, facilities and equipment will then be needed. Wildlife response activities may take place at sea, on shorelines and in specialised treatment facilities further inland. Options for wildlife management have to be considered and a strategy determined guided by the Western Australian Oiled Wildlife Response Plan (WAOWRP) and the NT Wildlife Response Plan for Oil Spills. Turtle nesting occurs between the months of December to January, and hatchlings can be expected between February and March. Avifauna are present year-round. Offshore OWR is not applicable due to the low concentrations of surface hydrocarbons.	**MGO / MDO**	**Adopt**
In-situ burning	Technique involves the controlled burning of oil that has spilled (from a vessel or a facility). On conducive hydrocarbons, and when conditions are favourable and conducted properly, in situ burning will reduce the amount of oil on the water.	For in-situ burning to be undertaken oil has to be thicker than 1-2 mm. MGO/ MDO is not conducive to in-situ burning due to rapid evaporation and low surface concentrations. Blacktip condensate and MGO/ MDO weathers rapidly and would likely become unsuitable for burning within 24 hours Floating oil concentrations from a well blowout of 4,943 m^3 Blacktip condensate are not predicted to exceed 10 g/m2 and 25 g/m2 thresholds at probabilities greater than 1%. The maximum distance to the outer extent of the 1 g/m2 is predicted to be 19 km. In-situ burning is therefore not effective. Floating oil concentrations from a 250m^3 condensate release at the SPM was not predicted to exceed 1 g/m^2 after 32 hours from the spill commencement respectively	**Blacktip condensate**	**Reject**
			MGO / MDO	**Reject**

Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
Scientific Monitoring	This is the main tool for determining the extent, severity and persistence of environmental impacts from an oil spill and allows operators to determine whether their environmental protection outcomes have been met (via scientific monitoring activities). This strategy also evaluates the recovery from the spill.	Scientific monitoring is especially beneficial for the purpose of monitoring entrained and dissolved oil impacts as response strategies are generally targeted to manage the surface oil impacts. See Appendix G of the OPEP.	**Blacktip condensate**	**Adopt**
			MGO / MDO	**Adopt**

7.2 Operational NEBA

The Control Agency IMT will use the NEBA process to inform the development and refinement of IAPs.

As a component of the incident action planning process, NEBA is conducted by the Control Agency with responsibility for the spill response activity. Where there are different activities controlled by different IMTs, as in a cross-jurisdictional response between Eni and WA DoT / NT DIPL, consultation will be required during the NEBA to ensure alignment of response priorities.

Operational monitoring data would be used to help support the decision-making process for the NEBA with specific consideration of:

- Identified sensitivities within the area potentially affected as informed by trajectory modelling
- assessment of the presence/absence of turtles and seabirds

7.2.1 Protection Priorities

The NEBA matrix table (Table 7.2) prioritises environmental sensitivities and assesses the individual net benefit that each response option may provide This process enables the trade-off effect to be achieved and provides the ability for an informed decision to be made. If there are conflicting outcomes for a particular response option, then the sensitivity with the higher priority becomes the preferred response option. NEBA is a decision-making process and will ultimately result in a trade-off of priorities and response strategies.

When deciding upon whether this trade-off is of net overall environmental benefit the receptors of 'High' protection priority should take precedence.

Table 7.2: NEBA matrix table and protection priorities

Sensitivity	Protection Priority	Response Strategy (↑ Increase in environmental benefit; ↓ Decrease in environmental benefit; – not applicable)		
		Monitor and Evaluate	Shoreline Clean-up	Source Control
Offshore				
Humpback Whales	High (T,M)	↑	–	↑
Blue Whales	High (T,M)	↑	–	↑
Dugongs	High (M)	↑	–	↑
Dolphins	High (M)	↑	–	↑
Whale sharks	High (T,M)	↑	–	↑
Other threatened sharks	High (T,M)	↑	↑	↑
Sawfish	High (M)	↑	↑	↑
Turtles	High (T,M)	↑	↑	↑
Salt-water crocodile	High (M)	↑	↑	↑
Short-nosed seasnake	High (CE)	↑	↑	↑
Migratory birds	High (T,M)	↑	↑	↑
Seabirds	Medium	↑	–	↑
Coral spawning	Medium	↑	–	↑
Coral reef	Medium	↑	–	↑
Macro-algae	Medium	↑	–	↑
Seagrasses	Medium	↑	–	↑
Fisheries	Low	↑	–	↑
Tourism	Low	↑	↑	↑
Petroleum activity	Low	↑	–	↑
Open waters	Low	↑	–	↑
Shoreline				
Turtles Beaches	High (T,M)	↑	↑	↑
Mangroves	High	↑	↓	↑
Marshland	Medium	↑	↓	↑
Mudflats	Medium	↑	↓	↑
Shorebirds	Medium	↑	↑	↑
Intertidal reef	Medium	↑	↑	↑
Site of cultural significance	Medium	↑	↑	↑
Subtidal reef	Low	↑	–	↑
Sandy beaches	Low	↑	↑	↑
Rocky shore	Low	↑	–	↑
Tourism	Low	↑	↑	↑

CE = Critically Endangered, T = threatened, M = Migratory

8. RESPONSE STRATEGIES

This section details the priorities, equipment, resources and response strategies that would be deployed in the event of a spill during Blacktip activities.

Response strategies may be implemented concurrently depending on the location and characteristics of the spill. The viability of implementing response strategies will be dependent on a number of factors including but not limited to environmental conditions, resources available and distance from sensitivities. Development of an IAP (Appendix C) will assess these various factors. A NEBA (as detailed in Section 7) will be undertaken for each operational period to determine which response strategies will provide a net environmental benefit to the environmentally sensitive locations that may be impacted.

8.1 Source Control

Hydrocarbon	Applicability
Blacktip Condensate	✓
MDO/MGO	✓

8.1.1 Overview

The Eni Source Control Response Plan (ENI-WOP-PL-001) includes the process for the IMT to mobilise resources for:

- Relief well drilling

The Source Control Plan will be used in combination with the existing IMT structure. Once the IMT is assembled and the nature of the incident is established, the relevant subject matter experts and drilling operations personnel will be summoned to assist the IMT and are responsible for initiating the SFRT and Source Control Response.

In a Level 2 or Level 3 spill, Eni will contact AMOSC and will inform them of the incident. Eni is part of the Mutual Aid MoU which sets up a framework for 'best endeavours' mutual assistance arrangements in drilling relief wells. The MoU commits the signatories to share rigs, equipment, personnel and services to assist another operator in need.

Eni Source Control Response Plan (ENI-WOP-PL-001) details the organisational structure, logistical and contractual arrangements in place as well as the equipment specifications considered for the well. In addition to the Source Control Response Plan, an addendum to this document will be prepared detailing all the location specific information for the Blacktip P3 drilling campaign. A specific relief well plan is prepared for the Blacktip, detailing the operational sequence, generalised rig specification for this operation, tentative location for the relief well and the well killing calculations.

Source control procedures for a vessel collision are detailed in the vessel SOPEP.

8.1.2 Capability and Resources

Relief well drilling

Applicable to:

- Loss of well control during drilling of the P3 development resulting in a long-term (74-day) uncontrolled surface release of 4,943 m^3 Blacktip condensate
- Loss of well control during production operations from the P1, P2 or P3 (when online) wells resulting in a long-term (74-day) uncontrolled surface release of <4,943 m^3 Blacktip condensate
- Loss of well control during drilling or production operations as a result of an explosion / fire scenario resulting in short term (3-day) surface release and a long-term (71-day) uncontrolled subsurface release of 4,943 m^3 Blacktip condensate

Eni is part of the Mutual Aid MoU which sets up a framework for 'best endeavours' mutual assistance arrangements in drilling relief wells. The MoU commits the signatories to share rigs, equipment, personnel and services to assist another operator in need.

The drilling of a relief well is considered the control in event of a loss of well control and will be implemented regardless of any other controls in place. This control when implemented successfully will prevent further loss of hydrocarbon to the environment.

Eni has considered the time to complete the drilling of a relief well in the Blacktip field and have determined that it can be achieved within 74 days based on the depth of the relief wells (~3,500m Maximum Depth (MD)). 74 days for relief well drilling is also stipulated in the Eni Source Control Response Plan (ENI-WOP-PL-001) and its addendum.

The 74-day blowout duration has been determined as a worst-case duration and is based on the maximum depth of the hydrocarbon reservoir being open. 74 days relief well drilling is based on the details within **Table 8.1**.

Table 8.1: Blacktip Relief well drill times

Phase	Details	Duration (days)
Mobilisation	Initial survey, securing the rig and rig mobilisation	27
Drill relief well - Based on Eni, Blacktip production well design	Drill 36” hole	33
	Run 30” Conductor	
	Drill 17-1/2” hole	
	Run 13-3/8” casing	
	Nipple up BOP stack	
	Drill 12-1/4” hole to ~3,000mD	
	Run 9-5/8” casing	
Intersect and kill	Interest trials using ranging tools	7
Plug and abandon	Plug and abandon the relief well	7
Total days		**74**

Long lead Items

All long lead items and equipment required for relief well drilling will be available at location within the 27-day period of MODU mobilisation. This will be part of the support provided by other operators as per the MoU as well as the corporate support in a global scale.

Mobilisation

The time to source and contract the MODU through the MOU and other stages to secure the rig are presented in **Table 8.2**, contingency duration is also included.

Table 8.2: Maximum durations and phases to for MODU sourcing

Phase	Duration (days)
Initial survey	2

Phase	Duration (days)
Secure the rig	10
Rig mobilisation	15
Total Days	**27**

Above is a realistic time estimate for the rig mobilisation; the assumption is that the rig will be secured from Singapore.

Relief Well Location

A surface location is defined in order to construct the relief well plan. The factors affecting the selection of the surface location are;

1. Proximity; considering an exclusion zone of 500 m around the WHP / MODU and taking into account the directional profile constraints, a minimum distance of 1,000 m is initially selected in order to ensure that the MODU is outside the range of hydrocarbons. A distance of 1,500 m is preferred.
2. Bathymetry of the area; the geotechnical survey conducted prior to drilling the BT-P1 and BT-P2 wells is available. The use of existing geotechnical survey in order to certify a location nearby the existing well / wellhead is a standard practice. There might be a requirement to conduct geophysical survey (sub bottom profiler / sidescan sonar) prior to rig move to the relief well location.
3. Meta-ocean data; The dominant wind direction in the proximity of the Blacktip WHP is from NW throughout the year. Therefore, the proposed relief well location will be NW of the Blacktip WHP.
4. Anti-Collision; the well location is selected in such a way that the chances of colliding the relief well with any other producing well is minimum. A proper survey management throughout drilling the relief well is vital.
5. Shallow gas assessment; The combination of the geophysical study conducted in the area and the offset well records will provide good dataset to evaluate the potential of encountering shallow gas while drilling the relief well.

The proposed relief well design is in such a way that the blowout well can be controlled using one relief well. The intersection point is close to the top of reservoir, hence making the control of the blowout achievable.

Relief Well Design

The relief well is designed to intersect the blow out well at the last casing shoe, with active magnetic ranging tools run on wireline in order to locate the target after few passes. The well design is kept as close to that of the target well utilising the same dogleg constraints while being able to achieve intersection at the 9 5/8” casing shoe of the blowing out well.

The casing setting depths are similar to the blow out well with the exception of the 9 5/8” casing which will be set shallower in order to provide the sufficient open hole for ranging. The formation strength is of importance at this depth, as it shall sustain the high friction pressure, caused by the initial intersection and dynamic kill.

The reservoir is normally pressured at 1.02 S.G.; this requires a minimum kill mud weight of 1.10.

The most likely fracture strength of the 9 5/8" casing shoe is 1.50 S.G. The kill mud weight therefore can be ranged between 1.1 and 1.5 S.G. A higher mud weight can be used to manage the well kill with lower kill rates and also allows a good margin of overbalance after the well kill. On the other hand, the higher mud weight increases the risk of exceeding pressure limits in the well bore. Therefore, a kill mud weight of 1.40 S.G. is chosen as the most suitable weight to achieve a well kill at reasonable pump rates, while providing good margin of overbalance.

Safety Case considerations

Eni have identified two scenarios which may alter the duration of safety case approvals:

- Scenario 1: MODU has NOPSEMA approved safety case, but revision is required for relief well drilling.
- Scenario 2: MODU does not have NOPSEMA approved safety case.

Eni will primarily look to source and contract a MODU through the Mutual Aid MoU that is operating within Australia with an approved Safety Case. Should that not be possible, Eni will source and contract a MODU outside Australia with an approved Australian Safety Case or any other form of HSE case. In the highly unlikely event that a MODU is not available that has an approved HSE case, then Eni will source a rig that does not have an approved safety case and will develop a new safety case. Durations for each of the scenarios are detailed in Table 8.3. All durations assume safety case preparation is undertaken as a priority. Sufficient resources will be allocated to safety case preparation to ensure it is completed within the allocated timeframe.

The timings for safety case approvals for all scenarios is determined to fit within the mobilisation timeframe of 27 days.

Table 8.3: Safety Case durations for MODU safety case scenarios

Details	Duration (days)
Scenario 1: **MODU has approved safety case, but revision to the SC is required for relief well drilling**	
HAZID	1
Review and document HAZID outputs	1
Safety case preparation / revision	2
Review and sign-off on submission	8
Total	**12**
Scenario 2: **MODU does not have NOPSEMA approved safety case**	
HAZID	1
Review and document HAZID outputs	1
New safety case preparation	11
Review and sign-off on submission	14
Total	**27**

The aim is to secure a MODU and begin relief well drilling in the fastest possible timeframe. Cost or resources are not considered limiting factors.

The availability for MODUs in Australian waters, plus rig activities of Australian operators and rigs with approved safety cases, will be identified on an ongoing basis to ensure that the best available MODU option can be sourced for relief well drilling. Eni will first look at sourcing a MODU with an approved Australian safety case from the nearest location to the well -blowout.

8.1.3 Termination Criteria

The source control response strategy will terminate once all the following criteria are satisfied:

- Release of hydrocarbon to the marine environment has ceased and the workplace environment is deemed environmentally safe and free of hydrocarbon.
- For refuelling spills, release of hydrocarbon into the marine environment has ceased and the workplace environment is deemed environmentally safe and free of hydrocarbons.
- For vessel tank rupture, the cargo in the ruptured fuel or storage tank is secured and release to the marine environment has ceased.

8.1.4 Environmental Performance Outcomes, Environmental Performance Standards and Measurement Criteria

SOURCE CONTROL		
EPO: Stop the release of hydrocarbons into the marine environment		
Control	**EPS**	**MC**
Relief well	MODU mobilised to site for relief well drilling within 27 days	IAP documentation
	First well kill attempt completed within 74 days.	IAP documentation
	MODU and vessel contracts include clause outlining requirement for support in the event of an emergency	Vessel and MODU contracts
	Access to MODU through Mutual Aid MoU for relief well drilling	Mutual Aid MoU in place for accessing rig for relief well drilling
Safety case	Prioritize MODU or vessel(s) for intervention work(s) that have an existing safety case	IAP documentation
Vessel and MODU support	MODU and vessel contracts include clause outlining requirement for support in the event if an emergency	Vessel and MODU contract

8.2 Monitor and Evaluate

Hydrocarbon	Applicability
Blacktip Condensate	✓
MDO/MGO	✓

8.2.1 Overview

The following sections summarise the key methods used, more detail is provided in the OSMP (operational monitoring programs 1 and 2 [OMP1 and OMP2]). See Appendix G.

The ongoing monitoring and evaluation of the oil spill is essential to maintaining situational awareness. Situational awareness based on the likely fate and trajectory of the spilt oil is fundamental to putting in place an oil spill response that will be efficient and effective.

Based on the potential impact area, Eni will use a variety of methods to gain and maintain situational awareness of the spill. Monitoring and evaluation will be undertaken for any level size to monitor the location of the spill and state of natural weathering.

There are five key methods for monitoring a spill:

1 real time oil spill trajectory modelling

2 satellite tracking buoys

3 observations from a vessel

4 aerial surveillance

5 satellite surveillance.

The use of these techniques will be based on the spill fate / volumes as well as other considerations such as access to locations and environmental / metocean conditions.

If criteria are triggered, Operational and Scientific Monitoring programs (Appendix G) shall also be undertaken as part of the monitoring and assessment response. Through AMOSC, Eni has access to the NatPlan environmental mapping resource, the Oil Spill Response Atlas (OSRA) (username/password: WMAENI01/Teresa_Lui_Yuen1132). OSRA utilises a Geographic Information System (GIS) platform and maps sensitive habitats and areas in Australian waters that could be potentially impacted by an oil spill and will be used to supplement environmental data on potentially affected sites as described in the EP and relevant baseline studies.

8.2.2 Capability and Resources

This strategy is summarised in **Table 8.4**, highlighting the minimum time standard for deployment upon activation.

Table 8.4: Monitor and evaluate strategy summary

Task	Outcome	Resources	Location	Resource owner	Minimum standard
Visual observation	Identify extent and direction of oil, visual characteristics. Manual calculations estimating likely spill trajectory and time scales to contact environmental sensitivities.	1 x on-site observer	On-site	Eni	Immediate (visual observations). Within 3 hours (spill trajectory calculations).
Oil spill trajectory modelling	Forecast the behaviour of the surface slick. Identify and assess risks to environmental sensitivities within the ZPI.[2] Inform development of the IAP.	APASA, via AMOSC	Fremantle, WA	AMOSC	Within 24 hours
		HSE Panel consultants	Perth, WA	Eni	
Determination of surface and dispersed oil trajectory and fate	Identify the likely trajectory and fate of the spill and dispersed oil, timeframes for the oil (surface or dispersed) to interact with environmental sensitivities.	One person with oil spill assessment training.	Fremantle, WA	AMOSC	Within 24 hours of OSTM being undertaken.
Satellite tracking buoys deployed	Follow the trajectory of the spill front.	2 x satellite tracking buoys on the drill rig	On-site	Eni to keep buoys on support vessels or the drill rig during drilling and well intervention	Within 3 hours of spill event

[2] Western Australia Marine Oil Pollution Risk Assessment (WAMOPRA) web map may also be used to identify sensitive receptors along the WA coast. WAMOPRA is available at: <http://wamopra.navigatusconsulting.com/map>.

Task	Outcome	Resources	Location	Resource owner	Minimum standard
Visual observation – from vessels of opportunity	Identify extent and direction of oil, visual characteristics.	As available	On-site	As available	Within 24 hours
Visual observation – from chartered vessels	Identify extent and direction of oil, visual characteristics.	One Vessel One Observer	On-site	Eni May also engage through TOLL	Within 72 hours
Visual observation – from aircraft/ helicopter	Identify extent and direction of oil, visual characteristics.	One trained observer	Fremantle, WA	AMOSC, AMSA or OSRL	Within 24 hours
		One Aircraft (Eni approved aviation providers)	Darwin, NT Perth, WA	Eni contractors	
		One Aerial support base	Perth, WA	To be confirmed between AMOSC and Eni	
Satellite imagery	High fidelity photographs using different spectrums to identify the trajectory of the oil.	KSAT	n/a	Eni	Within 24 hours and every 24 hours thereafter.
Visual observation – from UAV (Unmanned Aerial Vehicle)	Identify extent and direction of oil, visual characteristics.	One UAV One UAV engineer One Observer to review footage	Various	Bristow Aerial Solutions, Sky-Futures, Vertical Horizon Media Sourced through OSRL	Best endeavours

8.2.3 Oil Spill Trajectory Modelling

Real time oil spill modelling will be used to estimate the likely movement and behaviour of the spill and will be verified by field observations. The modelling will be sourced, via AMOSC, within 24 hours using their 24/7 emergency capability. The location of the slick predicted by oil spill modelling will be verified by field observations. Preliminary estimations using visual observations from the field and manual calculations will be available within approximately three hours to inform the mobilisation of equipment and resources in preparation for potential response strategies.

8.2.4 Satellite Tracking Buoys

Satellite tracking buoys will be available on support vessels or rig during drilling activities.

Satellite tracking buoys will be deployed in the event of a Level 2 or 3 spill. One buoy will be deployed from the support vessel or rig at the leading edge of the spill plume within 3 hours of the spill event to:

- monitor movement of surface oil
- qualify and assist surveillance monitoring.

Additional tracking buoys are available through AMSA and AMOSC, 96 hours after mobilisation, see Table 3.1.

8.2.5 Vessel Surveillance

Vessel surveillance will involve visual monitoring from vessels of opportunity, which may be engaged immediately in the event of a spill. Vessel surveillance may assist in determining if additional response actions are required.

Within 12 hours of a spill, the IMT Logistics Officer will identify any vessels within the immediate area with a capability to assist with the response and determine if weather conditions are suitable for vessel surveillance. The IMT will also determine whether there are any unacceptable safety risks that may preclude vessel surveillance, such as the presence of gas and Volatile Organic Compounds on the sea surface, and continue to monitor for these risks.

The Logistics Officer may identify vessel of opportunity by making contact with Shipping Agents within Darwin (as specified on the Darwin Port Handbook).[3]

Eni may also engage through TOLL all vessel operators and owners in WA, NT and Singapore to charter suitable vessels. TOLL has contracted ISS as Toll's (Australian) national emergency responder. Contact details below:

[3] Darwin Port Handbook is available at: <https://www.darwinport.com.au/trade/port-handbook>

Company	Function	Contact Details
TOLL	ISS emergency response	ISS 24/7 emergency responder: 1300 131 001 or 1800 639 621 or +61 (03) 8545 1000
	Reception	+61 8 9320 1111
	Logistics – Support	+61 488 101 637

Visual observations from chartered vessels occur within 72 hours of mobilisation.

Vessel surveillance will incorporate operational monitoring studies as outlined in the OSMP (Appendix G), this will involve various monitoring and sampling methodologies of water to determine the extent of surface, entrained and dissolved hydrocarbons in the water column and near sensitive receptors. Guidelines on how to estimate spill volumes at sea are provided in Appendix F.

8.2.6 Aerial Surveillance

Eni has contracts in place with Babcock Helicopters and FCM.

Contact for aerial surveillance is provided below:

Company	Contact Details
Babcock Offshore Services Australia Mungalalu/Truscott Airfield WA	+61 8 9161 4072 Babcock.truscott@babcock.com.au
FCM Travel Solutions	1300 557 854

Aerial surveillance will be undertaken for Level 2 and 3 spills. Visual observations may be undertaken from specially mobilised aircraft. Procedures for visually tracking the movement and behaviour of the spill are provided in Appendix F. Trained observers are to be present on the surveillance aircraft. Trained observers will be sourced from AMOSC, AMSA and OSRL to undertake the required aerial surveillance in the event of a spill.

Aerial surveillance may assist in determining if additional response actions are required. Minimum requirements are:

- one visual observer
- one aircraft (helicopter or fixed wing)
- one aerial support base (Darwin airfield).

If aerial surveillance is required, an over-flight schedule is developed by the IMT. The frequency of flights will be sufficient to ensure that the information collected during each flight (i.e. observer log and spill mapping) meets the information needed to direct response activities.

During each flight a photographic record and marine fauna sighting record sheet is completed for each marine fauna sighting made and recorded on the observer log.

Aerial surveillance would be used at the start of a spill to assess its trajectory (in conjunction with revised real-time oil spill modelling); data collected is vital to developing operational IAPs and deciding on appropriate initial and ongoing responses.

It would also be used during the response to monitor ongoing oil spill modelling, changes to spill and visual effectiveness and assessment of response strategies used.

Initial reconnaissance may be basic, whilst later observations may require more skill/calculations to estimate behaviour, therefore trained observers are critical.

For surveillance tasks, aircraft will have:

- good downward visibility (e.g. helicopters or fixed wing aircraft with an over-fuselage wing)
- space for observers, excluding pilot(s)
- visibility from both sides
- pilot-observer and pilot to vessel communications
- navigational aids to follow proposed flight path.

If acting in support of marine response, aircraft should be equipped with radios that allow direct communication with the vessels or other aircraft.

8.2.7 Satellite Monitoring

Eni has contracted KSAT to provide satellite monitoring for its operations. Eni may also access KSAT through AMOSC.

KSAT provide high fidelity photographs using different spectrums to identify the trajectory of the oil. In case of a spill reported to KSAT by Eni, KSAT will activate its Emergency Response Team that is targeted to be assembled within 24 hours. The first image will be received within 24 hours of acceptance of the proposed acquisition plan.

KSAT can be contacted as below:

Company	**Contact Details**
KSAT	Direct phone: +47 77 60 02 51 Switchboard: +47 77 60 02 50 Fax: +47 77 60 02 99

8.2.8 Termination Criteria

Vessel-based surveillance is undertaken at scheduled intervals during daylight hours, and continues for 24 hours after the source is under control and a surface sheen is no longer observable, or

- until no net environmental benefit is being achieved, or
- as directed by the Control Agency.

Aerial surveillance undertaken at scheduled intervals during daylight hours and continues for 24 hours after the source is under control and a surface sheen is no longer observable, or

- until no net environmental benefit is being achieved, or
- as directed by the Control Agency.

Tracking buoy deployment will continue for 24 hours after the source is under control and a surface sheen is no longer observable, or

- until net environmental benefit is no longer being achieved, or
- as directed by the relevant Control Agency.

Satellite monitoring will continue until no further benefit is achieved from continuing; or as advised by relevant Control Agency.

The 'monitor and evaluate' response strategy will terminate once all the following criteria are satisfied:

- The source of the spill is contained, and no more hydrocarbons are being leaked to the environment.
- Water and sediment quality monitoring demonstrates there are no longer any hydrocarbons above baseline levels (as determined from baseline/reactive monitoring data and/or control sites).
- Oil spill modelling indicates the coastline will not/no longer be impacted by surface or entrained oil.
- Surveillance following cessation of the spill reports no visible sheen (daylight), i.e. a 'silvery/grey' sheen as defined by the BAOAC is not observable.

8.2.9 Environmental Performance Outcomes, Environmental Performance Standards and Measurement Criteria

MONITOR AND EVALUATE		
EPO: Gain situational awareness from monitor and evaluate techniques and predict the fate of the spill		
Control	**EPS**	**MC**
Oil spill trajectory modelling	Detailed modelling service available for the duration of the incident upon activation through AMOSC.	AMOSC Participating Member Contract

MONITOR AND EVALUATE		
EPO: Gain situational awareness from monitor and evaluate techniques and predict the fate of the spill		
Control	**EPS**	**MC**
	Modelling can be sourced, via AMOSC, within 24 hours of activation. using their 24/7 emergency capability	AMOSC Participating Member Contract IAP documentation
Tracking Buoys	Satellite tracking buoys available on support vessels or rig during drilling activities.	Buoy hire contract or purchase.
	Where available, one buoy will be deployed from rig or support vessel at the leading edge of the spill plume within 3 hours of mobilisation of strategy.	IAP documentation
	Additional tracking buoys are available through AMSA and AMOSC within 96 hours	Detailed in IAP documentation. AMOSC Participating Member Contract
Vessel surveillance	Visual observations from chartered vessels occur within 72 hours of mobilisation.	IAP documentation
	Vessel surveillance shall continue until termination criteria detailed in Section 8.2.8 have been met	Criteria have been met prior to termination of the response strategy. Detailed in IAP documentation.
Aerial surveillance	Visual observation – from aircraft/ helicopter are made within 24 hours of mobilisation.	IAP documentation
	Trained observer is mobilised and making visual observations within 24 hours of mobilisation.	IAP documentation
	Aerial surveillance shall continue until termination criteria detailed in Section 8.2.8 have been met	Criteria have been met prior to termination of the response strategy. Detailed in IAP documentation.
Satellite imagery	Contract in place with satellite provider to enable access and analysis of satellite imagery.	Contract with KSAT (satellite imagery provider)
	First image received with 24 hours	IAP documentation

MONITOR AND EVALUATE		
EPO: Gain situational awareness from monitor and evaluate techniques and predict the fate of the spill		
Control	**EPS**	**MC**
	Satellite Imagery services available during response.	Contract with KSAT (satellite imagery provider) IAP documentation

8.3 Shoreline Clean-Up

Hydrocarbon	Applicability
Blacktip Condensate	✓
MDO/MGO	✓

8.3.1 Overview

In the event of a level 2/3 spill entering State waters, WA DoT / NT DIPL is the Control Agency for that portion of the response activity that occurs within State waters. Shoreline clean-up will be directed by the WA DoT / NT DIPL. Eni will provide support to WA DoT / NT DIPL which could include providing equipment, trained personnel and technical specialists.

No shoreline hydrocarbon accumulation above the response threshold of 100 g/m^2 is anticipated by oil spill trajectory modelling (see Section 6.3). Shoreline accumulation may occur below 100 g/m^2 at the following locations:

- Kimberley Coast,
- Joseph Bonaparte Gulf East
- Joseph Bonaparte Gulf West

It is anticipated therefore that shoreline assessment will be the only resource required. Should the assessment team find significant hydrocarbon accumulation on the shoreline, Eni have the capabilities as demonstrated within this Section to manage the clean-up.

At locations of shoreline accumulation, a shoreline assessment will be undertaken as per Section 8.3.2. Should shoreline assessment determine a clean-up response is required Eni has access to resources detailed within Section 8.3.2.

An inventory (location and quantities) of shoreline clean-up stockpiles available to Eni is maintained and available on the shared network drive.[4]

8.3.2 Capability and Resources

Shoreline clean-up stockpiles available to Eni and the transport method to be utilised in the event of a spill are presented in Table 8.5.

An inventory of shoreline clean-up stockpiles available to Eni is maintained and available on the Eni Share-point / Intranet.

[4] K:\Public\IMT\06 Oil Spill Response\06 AMOSC\2. Equipment

Table 8.5: Shoreline clean-up stockpiles available to Eni

	Time period from notification to mobilise to Blacktip		
	<24 hours	**48-72 hours**	**> 96 hours**
AMOSC	Deploy from various stockpile locations. Transport: Aircraft	Deploy from stockpile locations. Transport: Aircraft/truck/boat–optimum will be chosen. • Skimmers • Power Packs, Pumps • Sorbents, Pads and Booms • Waste Storage <10,000 L	Deploy from various stockpile locations. Transport: Aircraft/truck–optimum will be chosen. • Waste Storage • Communications
AMSA	Deploy from various locations Transport: Aircraft	Deploy from stock pile locations. Transport: Truck/boat/aircraft–optimum will be chosen. • Skimmers • Power Packs, Pumps • Sorbents, Pads and Booms • Waste Storage <10,000 L	Deploy from various stockpile locations. Transport: Aircraft/truck–optimum will be chosen. • Skimmers and Sorbents • Power Packs, Pumps and Accessories • Waste Storage • Communications

Shoreline consumables and decontamination facilities are available through hardware, PPE and specialist oil/chemical spill suppliers (e.g. Global Spill Control) and mobile plant is available through hire outlets in Darwin, Perth and other regional centres.

The level of deployment of equipment and personnel for clean-up will be commensurate to the spatial extent of shoreline contact, the volume of oil arriving and the sensitivity and access constraints of the shoreline in question. Equipment/ personnel requirements and deployment locations will be communicated to the Eni IMT from the WA DoT / NT DIPL IMT following shoreline assessments. Deployment of shoreline clean-up equipment and personnel occurs through staged escalation throughout an incident response.

Table 8.6 presents a summary of the shoreline clean-up strategy, resources and timelines.

Table 8.6: Shoreline clean-up strategy summary

Task	Outcome	Resources	Location	Resource owner	Minimum Standard
Assessment of spill trajectory via manual calculations	Forecast likelihood of spill threatening sensitive resources.	Eni IMT.	Perth, WA	Eni	Within 3 hours of spill being detected.
Assessment of spill trajectory via OSTM	Forecast the behaviour of the hydrocarbons. Identify and assess risks to environmental sensitivities within the ZPI. Inform NEBA and development of the IAP.	AMOSC contract with APASA to undertake OSTM.	Fremantle, WA	AMOSC	Within 24 hours of spill of spill being detected.
NEBA	Determine if response strategy will have a net environmental benefit. Inform development of the IAP.	Eni IMT.	Perth, WA	Eni	Within 24 hours (ongoing NEBA every 24 hours and as required) of spill being detected.
Shoreline assessment	Shorelines are assessed as to their level of hydrocarbon stranding, and priority for clean-up.	Shoreline clean-up assessment teams (AMOSC, OSRL and AMSA shoreline assessment specialists)	Various	AMOSC OSRL AMSA WA DoT / NT DIPL	Onsite within 5 days, or 24 hours prior to shoreline contact (if prolonged time to shoreline contact).
	Equipment available to facilitate shoreline assessment	Shovels, plastic bags, rakes, buckets, wheelbarrows, absorbents, PPE. Decontamination kit. Mechanical tiller (if required). Means of communication (e.g. radios, repeater trailers, satellite phones)	Darwin, NT Fremantle, WA	AMOSC	On site within 5 days.

Task	Outcome	Resources	Location	Resource owner	Minimum Standard
	Crews are safe, fed, in contact with other parts of the response and hydrated.	PPE, food, water, shelter, communications network. Amenities established.	Various	AMOSC	Until termination of shoreline clean-up.
Shoreline clean-up	Clean-up teams are led by competent and trained personnel.	Personnel who are qualified to take on the role of Shoreline Clean-up Specialist	Various	AMOSC DoT	Onsite within 5 days, or 24 hours prior to shoreline contact (if prolonged time to shoreline contact).
	Shorelines removed of hydrocarbons	Shoreline clean-up teams	Various	Labor hire through contractor Eni	Onsite within 5 days, or 24 hours prior to shoreline contact (if prolonged time to shoreline contact).
	Equipment available to facilitate shoreline clean-up	Shovels, plastic bags, rakes, buckets, wheelbarrows, absorbents, PPE. Decontamination kit. Skimmers Power Packs, Pumps and Accessories Sorbents, Pads and Booms Means of communication (e.g. radios, repeater trailers, satellite phones)	Darwin, NT Broome, WA Exmouth, WA Fremantle, WA	AMOSC Eni WA DoT / NT DIPL	On site within 5 days.
	Crews are safe, fed, in contact with other parts of the response and hydrated.	PPE, food, water, shelter, communications network. Amenities established. Vinegar for Irikanji stings.	Various	Eni	Until termination of shoreline clean-up.
Vessels	Marine vessel(s) capable of carrying clean-up crew and spill equipment to remote islands.	Marine vessels capable of carrying crew and clean-up equipment to remote islands. Capable of logistics support/accommodation for up to12 POB, crew.	Darwin, NT Exmouth, WA	Eni – through vessel contracts	On site within 8 days.

Task	Outcome	Resources	Location	Resource owner	Minimum Standard
		Vessels may be used that have ceased other response activities (containment and recovery).			

Note: DBCA should be activated when there is imminent or actual impact to wildlife in WA: Contact details (08) 9219 9108

Shoreline Assessment Teams

Shoreline Assessment Teams will be deployed initially with the specialist skills to make an assessment of the actual and potential impact to the shoreline sensitivities and the resources that are required to implement a clean-up operation. This Shoreline Clean-up Specialists will be resourced through AMSA, AMOSC and OSRL.

Shoreline Clean-up Specialist responsibilities may include:

- Evaluate oiling conditions;
- Factor in shoreline types;
- Identify sensitive resources;
- Determine need for clean-up;
- Recommend clean-up methods and endpoints;
- Place constraints on clean-up if necessary, due to safety, ecological, economic or cultural concerns; and
- Communicating with the IMT Leader on response equipment and personnel needs required for clean-up activities.

Shoreline assessment team onsite within 5 days, or 24 hours prior to shoreline contact (if prolonged time to shoreline contact). Initial assessment of shoreline areas predicted for impact would take initially 1-2 days post spill.

Local indigenous groups may also be an invaluable source of field support due to their knowledge of access to remote areas, dangerous fauna and local indigenous values, such as sacred sites. Local indigenous groups may also be an invaluable source of field support due to their knowledge of access to remote areas, dangerous fauna and local indigenous values, such as sacred sites. In addition, their knowledge of sea currents and coastal topography can help predict and identify sites of hydrocarbon accumulation along the shoreline.

Shoreline Response Teams

In the event of a level 2/3 spill entering State waters, WA DoT / NT DIPL is the control agency for that portion of the response activity that occurs within State waters. Shoreline clean-up will be directed by the WA DoT / NT DIPL.

The number of resources required (vessels, equipment and personnel) will vary significantly depending on the level of shoreline clean-up required.

Shoreline Response Teams shall be led by AMOSC Core Group Responders; typically, 1 x Team Leader to 6 -10 x clean-up personnel (depending on the location of the spill). Through AMOSC training, the Core Group Responders maintain competency for leading a Shoreline Clean-up Team.

The Team Leader, will provide direction to the clean-up personnel, oversee the shoreline response operations and report progress to the WA DoT / NT DIPL IMT.

Supporting resources to supplement the shoreline clean-up team leads will be sourced from local labour hire companies where possible.

Eni can access labour through TOLL who have immediate access to labour through their personnel network in Darwin and Perth that could assist in the event of a spill:

Company	Function	Contact Details
TOLL	ISS emergency response	ISS 24/7 emergency responder: 1300 131 001 or 1800 639 621 or +61 (03) 8545 1000
	Reception	+61 8 9320 1111
	Logistics – Support	+61 488 101 637

Shoreline Response Teams will be mobilised within 24 hours.

The number of Shoreline Response Teams deployed will be determined by the shoreline team assessment reports and WA DoT / NT DIPL as the controlling agency.

Table 8.7 below identifies potential shoreline clean-up methods and various substrates that may be implemented in the event of oil stranding on shore.

Table 8.7: Shoreline clean-up methods

Shoreline Type				Clean-up Method R – recommended; C – Conditional based on SCAT assessment; NA – Not applicable				
Substrate	**Form/ exposure**	**Positives**	**Negatives**	**Natural Recovery**	**Manual Removal of Oil and Debris**	**Use of Sorbents**	**Mechanical Tiller to assist Bioremediation**	**Low pressure salt water flooding**
Bedrock	Cliff (exposed)	Consider extent of oiling and capacity for natural recovery to determine the level and method of clean-up required. Consider the health and safety aspects of accessing and working in tidal zones and the potential for slips and falls. Use response strategies that minimise damage to flora and fauna.	Do not wash oil into ecologically sensitive lower intertidal zone. Avoid over cleaning or removal of bedrock.	R	NA	C	NA	NA
	Cliff (sheltered)			R	C	C	NA	NA
	Platform (exposed)			R	C	C	NA	NA
	Platform (sheltered/broken)			R	R	C	NA	NA
Boulder	Beach (exposed)			R	R	C	NA	C
	Beach (sheltered)			C	R	C	NA	C
Cobble	Beach			R	R	C	NA	R
Pebble	Beach			R	R	R	NA	R
Gravel/ Grit	Beach			R	R	R	NA	R
Course Sand	Beach	Consider seasonal effects on local amenities/ecological impacts to determine level of clean-up required. Use strategies that maximise access and logistics conditions and minimise waste generation. Utilise the natural advantages of the tidal movement with surf washing and sediment relocation.	Avoid over cleaning or removing more sand than is necessary. Avoid burying the oil further into the sand substrate, for example personnel or machinery on shoreline. Prevent re-oiling of adjacent beaches and avoid cross-contamination of oil into clean areas.	C	R	R	C	C
Fine Sand	Beach			C	R	R	C	C

Shoreline Type				Clean-up Method R – recommended; C – Conditional based on SCAT assessment; NA – Not applicable				
Substrate	**Form/ exposure**	**Positives**	**Negatives**	**Natural Recovery**	**Manual Removal of Oil and Debris**	**Use of Sorbents**	**Mechanical Tiller to assist Bioremediation**	**Low pressure salt water flooding**
		Use response strategies that minimise damage to flora and fauna.						
Mud/Silt	Intertidal Flats	Consider the ecological sensitivities of the area when determining the most appropriate response strategy. Use booms to protect areas not impacted. Herd oil into less sensitive areas. Use absorbents on small patches of accessible oil. Using natural absorbents will reduce the necessity of recovering the sorbent material. Be aware of tidal ranges and ensure safety of personnel.	Avoid both personnel and machinery entering the area. Avoid forcing oil into the substrate. Prevent re-oiling of adjacent flats, mangroves and avoid cross-contamination of oil into clean areas. Avoid cosmetic clean-up. Avoid over cleaning or removing oiled vegetation and substrate.	C	C	C	NA	C
	Mangroves/ Saltmarsh			R	C	C	NA	C
Coral	Intertidal Reef/Reef	Utilise the natural advantages of the tidal movement with surf washing	Avoid both personnel and machinery entering the area.	R	NA	NA	NA	NA

Accommodation

Where possible local facilities in Darwin will be used to accommodate assessment and clean-up personnel. Vessels with accommodation facilities may also be utilised for a remote response.

Transportation to respective work sites will be facilitated via modal and multimodal transport solutions, dictated by the geographical constraints of each site. Under current contractual arrangements Eni has access to transportation providers for land, air and marine operations. Transport from accommodation locations to clean-up locations would be via road using the services of a third-party contractor. Should additional services be required to meet the demand, this would be engaged under a Service Agreement as determined and authorised by the IMT.

8.3.3 Waste

WA DoT / NT DIPL as the Controlling Agency for shoreline response is responsible for overseeing the consolidation and storage of collected waste prior to collection of the waste by a waste contractor.

Eni will provide a contracted waste provider for the collection, treatment and disposal of waste from an oil spill response (See Section 8.5).

8.3.4 Shoreline Clean-up Techniques

Sorbent Materials

Sorbent materials may be used in the event hydrocarbons strand along the shorelines when still in a liquid phase, however this is not expected. A key consideration when using sorbent materials is managing the resulting waste. Specific locations will be identified by the shoreline assessment teams in which sorbent boom can be laid along the shorelines in order to capture the most oil, whilst minimising the extent of intertidal area impacted. Stranded oil will be collected by shoreline clean-up personnel via sorbent pads.

Sorbent and snare booms can be very effective in trapping oil mobilised on successive tides while minimising additional damage to sensitive ecosystems such as intertidal mudflats and mangrove areas. On mudflats and mangrove areas, the use of natural absorbents is preferred. The use of natural absorbents minimises the environmental impact of any remaining traces or lost material (e.g. blown away by wind).

Mechanical Tiller to assist Bioremediation

Small mechanical tillers can be used to assist with breaking down the more persistent fractions into smaller particles and moving it into the surf zones to assist and increase the rate of natural bioremediation. Assessment by the shoreline teams will be made prior to mobilisation on whether mechanical tillers could be used. In some cases, this may be the preference as it requires smaller teams and does not result in the large volumes of waste. Depending on the volumes a shore, a combination of manual clean-up and mechanical tilling may be utilised in order to reduce the volume ashore and increase the natural recovery for the remaining oil.

Manual Removal of Oil and Debris

Manual clean-up of oil will be undertaken in a methodical way at natural collection points along the shoreline to minimise the impact of the environment. Defined pathways will be established, so that disturbance to habitats are minimised and can be restored upon termination of the shoreline clean-up. Waste minimisation is a key aspect of this strategy.

The oil expected to strand on the shorelines will be of waxy nature, therefore it is expected to sit on top of the sand. At cooler times of the day, wax is expected to remain in a hardened state. Clean-up personnel will be instructed to collect the wax and minimise the volume of sand collected to ALARP during these periods. This will keep the volume of waste to be stored and disposed of to ALARP and will also minimise the impact on the beach habitat and profile. In some cases, the oily waste may be moved to above the high tide line of the beach to be picked up in a more efficient manner at a later stage. This will be assessed as part of the IAP and NEBA process.

During the warmer parts of the day, the wax will become softer or melt. An assessment will be made if manual clean-up is still the optimum response at this stage, other strategies may be more effective.

Ambient Water Flooding (Deluge) and Low-Pressure Ambient Water Flushing

Low-pressure flushing with ambient seawater can wash fluid, loosely adhered oil from the sediment surface and mangrove vegetation into areas where it can be collected, as long as it can be done without resulting in significant physical disturbance of the sediment. Generally, flushing is most feasible at the outer fringe, but can sometimes be used to remove oil trapped within the mangrove forest.

Ibáñez (1995) successfully used low-pressure flushing of the soils and mangrove roots in a 2.5-3 hectare mangrove affected by 28,000 gallons of slop oil in Cartagena, Colombia over a 54-day period; three years later, the forest had grown to cover 7 hectares.

Flushing at water levels high enough to submerge sediments may help minimize impact to the substrate. If substrate mixing is likely or unavoidable, responders should allow the oil to weather naturally.

Flushing is not effective with heavy oils or highly weathered oils. One of the biggest challenges is to get "behind" the oil that is trapped in the vegetation so it can be flushed to open water where the oil can be contained with boom and recovered using vacuums, skimmers, or sorbents. Flushing operations have to consider tidal currents (flush on a falling tide) and wind (an onshore wind will push any released oil back onto the shoreline).

8.3.5 Access to remote location

In the initial instance, assessment of remote shorelines can be conducted by using the aerial transport resources described in Section 8.2. These resources will be used to monitor the spill and undertake regular assessment of shorelines throughout the region, noting predicted locations of shoreline contact.

Vessels may also be used to access any remote locations and deliver personnel, clean-up equipment and PPE.

The IMT Logistics Officer will identify any vessels within the immediate area with a capability to assist with the response and have the ability to deliver crew and resources to remote locations identified. The Logistics Officer may identify vessel of opportunity by making contact with Shipping Agents within WA.

The IMT Logistics Officer may also engage through TOLL all vessel operators and owners in WA, NT and Singapore to charter suitable vessels.

Shallow draft vessels will be used where available to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines. Vessels are capable of grounding out; therefore, potentially the vessels would come in on high tide and ground out, unload then depart on the next high tide.

If vessels are required to anchor, locations will be selected to minimise disturbance to benthic primary producer habitats. In first instance, sandy seabed habitat should be used to anchor over.

Access to Aboriginal-owned land will require permission from the relevant group, as described in the next section. Local indigenous groups may also be engaged to support site reconnaissance, response planning, identification of dangerous fauna and identification of local environmental values and sensitivities.

Access to Aboriginal-owned land

Around 84% or 6,050km of the coastline of Northern Territory mainland is owned by Aboriginal Traditional Owner groups. Access to Aboriginal-owned land (including intertidal waters and shorelines) requires permission in accordance with the *Aboriginal Land Rights (Northern Territory) Act 1976* before entering these lands.

It is noted that the land along the coastline in the ZPI is owned by various different groups. The Yak Maninh are traditional owners of the coastal area in the vicinity of the proposed pipeline shore crossing, onshore GEP pipeline corridor, Blacktip Yelcherr Gas Plant, the larger portion of the plant access road and Yelcherr Beach. The Yak Dimininh are traditional owners of the other portion of the access road. Formal contact with these groups should be made through the Thamarrurr Development Corporation

For potential impact to other areas along the JBG West or East coastline, the Northern Land Council should be contacted to identify the relevant owner groups. For potential impact to the Kimberley coastline, the Kimberley Land Council should be contacted.

Stakeholder consultation is mandatory and explicit, written permission must be obtained prior to entering Aboriginal-owned land.

All personnel entering Aboriginal-owned land will adhere to land access permit conditions and any other requests regarding movements within the area.

Remote locations/island response

The main protection priority for remote locations and islands are:

- Turtle nesting beaches –nesting and hatching seasons;and
- Mangroves.

The priority clean-up tactic is to manually flush oil back to ocean, where there is significant proportion of the deposited hydrocarbon within the crevices of the rocky shorelines. These deposits are to be shifted by low pressure salt water flushing.

8.3.6 Health and safety issues

There are a number of HSE issues associated with shoreline assessment and response:

- Crocodiles;
- Irikanji; and
- Heat stroke / dehydration / fatigue.

Management controls include:

- Use of local knowledge to determine what fauna may be present and pose safety risks – for example, local ranger groups could be added to the shoreline assessment and response teams;
- Use of a dedicated spotter and shooter with a rifle to watch for crocodiles;
- Keep vinegar on site at all times for Irikanji;
- All personnel to work in teams of greater than 2;
- All teams to carry a satellite phone;
- During extreme weather conditions, establish split shifts where teams can work for 30 minutes (labour) followed by 30 minutes rest.

8.3.7 Termination criteria

The shoreline clean-up response strategy will terminate once the following criteria are satisfied:

- Clean-up is having no further beneficial effects on the shoreline or associated plants or animals.
- The extent and degree of oiling is judged to be acceptable or having little or no adverse effects NEBA concludes that continued activity will produce little or no environmental benefit.

8.3.8 Response Required and Adequacy

Shoreline hydrocarbon accumulation is predicted in the event of a 250 m^3 spill from the SPM and a 100m^3 diesel spill at the SPM. Volumes of accumulated hydrocarbons are predicted to be low and under any response threshold for a clean-up response (see Section 6.3). A shoreline response is therefore unlikely, however is presented in this OPEP to show clean-up capability, should one be required (as determined by the shoreline assessment).

8.3.9 Environmental Performance Outcomes, Environmental Performance Standards and Measurement Criteria

SHORELINE CLEAN-UP		
EPO: Remove bulk and stranded hydrocarbons from shorelines with the aim to encourage shoreline habitat recovery.		
Control	**EPS**	**MC**
Shoreline responders	Communication line to be maintained between IMT and shoreline clean-up response to ensure awareness of protection priorities and progress against IAP.	Detailed in IAP documentation and communication logs
	Shoreline Assessment Team onsite within 5 days, or 24 hours prior to shoreline contact (if prolonged time to shoreline contact).	Detailed in IAP documentation
	Maintenance of access to shoreline clean-up personnel through AMOSC, AMSA National Plan and OSRL throughout activity.	MoU for access to National Plan resources through AMSA AMOSC Participating Member Contract OSRL Associate Member Contract
	The safety of shoreline response operations will be considered and appropriately managed during a response	Detailed in IAP documentation
Shoreline clean-up equipment	Equipment mobilised from State, AMOSC, AMSA Stockpiles within 5 days	Detailed in IAP documentation
	Maintenance of access to shoreline clean-up equipment through AMOSC, AMSA National Plan and OSRL throughout activity.	MoU for access to National Plan resources through AMSA AMOSC Participating Member Contract OSRL Associate Member Contract
	If vessels are required for access, anchoring locations will	Detailed in IAP documentation

SHORELINE CLEAN-UP		
EPO: Remove bulk and stranded hydrocarbons from shorelines with the aim to encourage shoreline habitat recovery.		
Control	**EPS**	**MC**
	be selected to minimise disturbance to benthic habitats.	
	Shallow draft vessels will be used to access remote shorelines to minimise the impacts associated with seabed disturbance on approach to the shorelines.	Detailed in IAP documentation
	Vehicle access will be limited or restricted on dunes, turtle nesting beaches and in mangroves	Detailed in IAP documentation
	Removal of vegetation will be limited to moderately or heavily oiled vegetation	Detailed in IAP documentation

8.4 Oiled Wildlife Response

Hydrocarbon	Applicability
Blacktip Condensate	✓
MDO/MGO	✓

8.4.1 Overview

Note: DBCA are relevant Statutory Authorities for the protection of wildlife in WA State waters and will be notified of potential for oiled wildlife in WA State Waters.

DBCA should be activated when there is imminent or actual impact to wildlife

Contact details: (08) 9219 9108

For WHP, SPM and wellhead releases, Eni are the Control Agency. In Commonwealth waters, DAWE has the jurisdictional authority for wildlife, with AMSA (vessel spills) and Eni (wellhead releases) as control agency. If the spill has the potential to enter State waters WA DoT / NT DIPL would be notified of the spill and would provide an advisory role to the Eni IMT. For spills moving from Commonwealth to State waters (cross-jurisdictional), WA DoT or NT DIPL may assume position as the Control Agency responsibilities. Under that scenario, WA DBCA / NT DTSC Commission would control oiled wildlife response across State and Commonwealth waters under instruction by the Control Agency.

Table 8.8: Jurisdictional authorities for OWR

Western Australia *		Northern Territory		Commonwealth waters	
Blacktip Facility / Drilling	**Vessel**	**Blacktip Facility / Drilling**	**Vessel**	**Blacktip Facility / Drilling**	**Vessel**
NT DBCA		NT DTSC – Parks and Wildlife		DAWE	

For WA State Waters the key plan for OWR in WA is the WA Oiled Wildlife Response Plan (WAOWRP).The WAOWRP was developed by AMOSC (on behalf of the petroleum industry) and Department of Biodiversity Conservation and Attractions (DBCA) to define the minimum standards for OWR in WA as a sub-plan to WestPlan. The plan would be implemented by WA DoT in the event of a hydrocarbon spill entering State waters, but can be used as guidance for OWR planning in Commonwealth waters. The Pilbara Region OWRP, which sits within WAOWRP, provides operational guidance to respond to injured and oiled wildlife in the Pilbara region.

For NT State Waters, under the NT OSCP the managing the clean-up, care and rehabilitation of oiled wildlife is the responsibility of DIPL. AMOSC similarly developed an NT Oiled Wildlife Response Plan (NTOWRP) in 2019 to provide operational guidance to respond to oiled wildlife along the NT coast and nearshore area. The IC, or nominated

officer, will contact NT DTSC to fulfil the role of Wildlife Coordinator (WC) in the event that oiled wildlife is observed or considered likely.

Through membership with AMOSC and OSRL, experts with extensive oiled wildlife experience could be contacted at Massey University and through the Sea Alarm Foundation. Sea Alarm Foundation has a global network of international experts in oiled wildlife response that can assist with specialised commander roles when large numbers of fauna are impacted.

8.4.2 Capability and Resources

Oiled wildlife equipment available to Eni and the time to mobilise are presented in Table 8.11. The equipment in Table 8.11 can treat up to 600 wildlife per day by day 6 once mobilised.

Each oiled fauna kit provides the capability to treat approximately 100 wildlife. Each containerised washing station can treat up to 250 wildlife for a five-day period.

Table 8.9: Oiled wildlife stockpiles available to Eni

Resource Owner	Type of Equipment and Number	Available to be mobilised
AMOSC	1 x oiled fauna kit (Dampier)	Day 1
	1 x portable containerised washing station* (Fremantle) 1 x oiled fauna kit (Karratha) 1 x oiled fauna kit (Exmouth)	Day 2
	1 x oiled fauna kit	Day 3
	1 x portable containerised washing station 2 x oiled fauna kits	Day 5
OSRL	Equipment to support intake and triage; cleaning and rehabilitation and a wildlife rehabilitation unit.	Day 6

To deploy a response that is appropriate to the nature and scale of the spill event, Eni would implement an oiled wildlife response in consultation with WA DBCA/NT DTSC and use the capability outlined in the WAOWRP or NTOWRP. Additional personnel can be accessed through a labour hire contract with TOLL.

Oiled wildlife response containers and kits which can be activated are located in Fremantle, Dampier, Darwin, Townsville, Sydney and Geelong.

The AMOSC oiled wildlife response equipment is based in Fremantle, and comprises an Oiled Wildlife Container for washing up to 50 oiled birds per day.

OSRL OWR equipment is stored in Singapore.

Due to the characteristics of the Blacktip condensate and MGO / MDO it's unlikely that large numbers of oiled wildlife will be encountered. However, small fast vessels would be used to transport wildlife back to treatment and staging centres. This aims to minimise transport times for wildlife in care, duration prior to transport to the mainland and allows the wildlife experts to remain in the field undertaking capture and stabilisation operations.

Table 8.10 presents a summary of the oiled wildlife response, resources and timelines.

Regional transport times are shown in Figure 3.1. Estimated travel times between NT coastal locations are also provided in Appendix C of the NTOWRP.

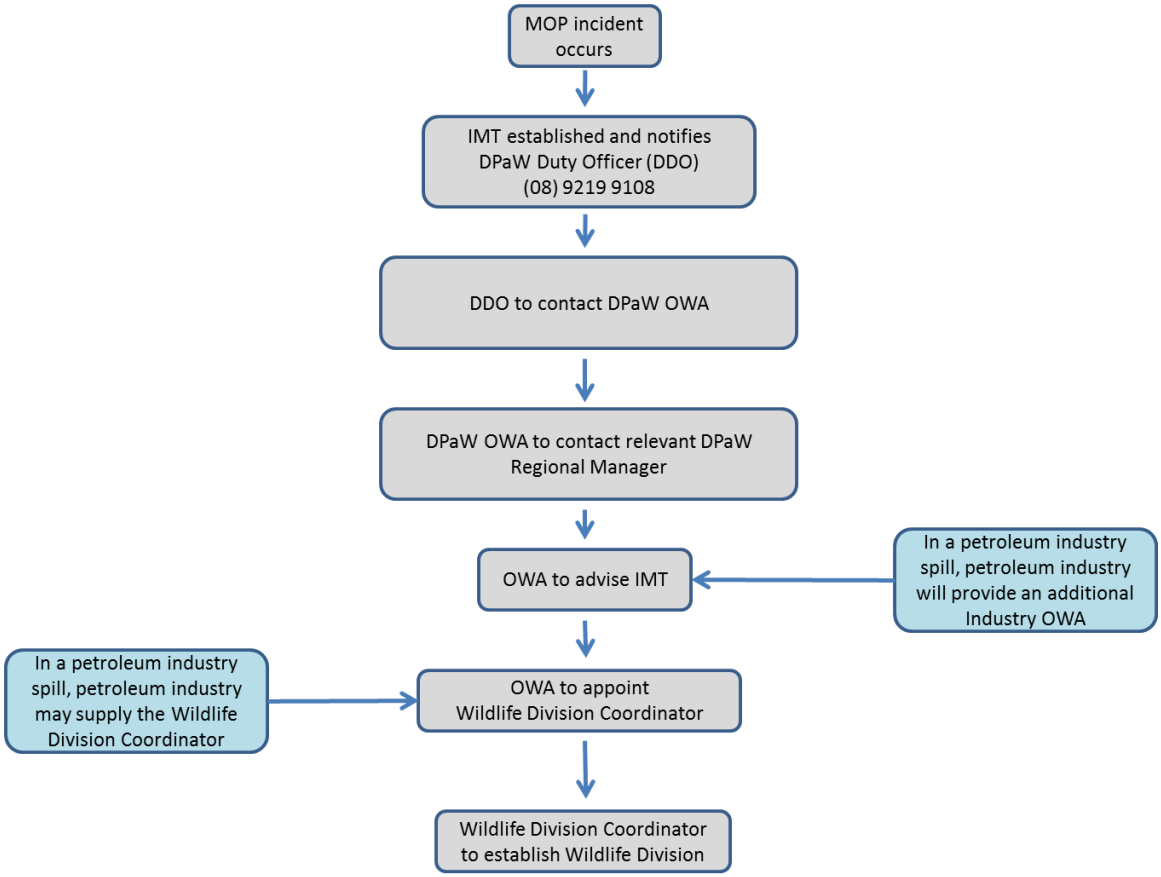
Table 8.10: Oiled wildlife strategy summary

Task	Outcome	Resources	Location	Resource Owner	Minimum Standard
Assessment	Assessment of wildlife at risk.	Aircraft and vessels Eni contractor	Various	Eni	As part of the Operational and Scientific Monitoring Programs (OSMP) operational monitoring.
NEBA	Determine if response strategy will have a net environmental benefit. Inform development of the IAP.	Eni IMT	Perth, WA	Eni	Within 24 hours of spill being detected (ongoing NEBA every 24 hours and as required).
Oiled Wildlife Response Team	Oiled Wildlife Commander in IMT. Oiled wildlife coordinators onsite. Trained wildlife response personnel mobilised to site as required and lead teams of volunteers at staging centres. Establish treatment or rehabilitation centre for oiled wildlife .	Oiled Wildlife Advisor to provide assistance to the IMT.	Various	AMOSC	Oiled Wildlife Advisor notified within 24 hours of spill being detected. Assist with operational monitoring.
		Ability to provide labourers to assist in wildlife response	Various	Eni AMOSC	Notified within 24 hours of spill being detected.
Equipment	Equipment required for oiled wildlife response	Oiled fauna kits Portable containerised washing station	Karratha, WA Exmouth, WA Dampier, WA Fremantle, WA	AMOSC AMSA	1 kit available to be mobilised within 24 hours. See Table 8.9

Task	Outcome	Resources	Location	Resource Owner	Minimum Standard
Vessels	Vessels can be utilised to support oiled wildlife response activities. Such as hazing, pre-emptive capture	Vessels through existing contracts with providers an TOLL (see Section 8.2.5)	Darwin, NT Exmouth, WA	Eni	Within 72 hours
Rehabilitation	Move the oiled fauna to a rehabilitation centre if deemed necessary.	Transportation to a rehabilitation centre.	Various	AMOSC	Within 4 days of being captured.
	Resources to assist at staging centres.	Recruitment agencies to provide a sustainable supply of resources during the response.	Various	AMOSC	Onsite within 7 days.

Activation of WAOWRP

The IMTL will activate the WAOWRP as outlined in Figure 8.1.



Note, the Wildlife Division Coordinator must be DBCA representative.

Figure 8.1: Activation of the WAOWRP (from DPaW, 2014)

Activation of NTOWRP

The IMTL will activate the NTOWRP as outlined in Figure 8.1.

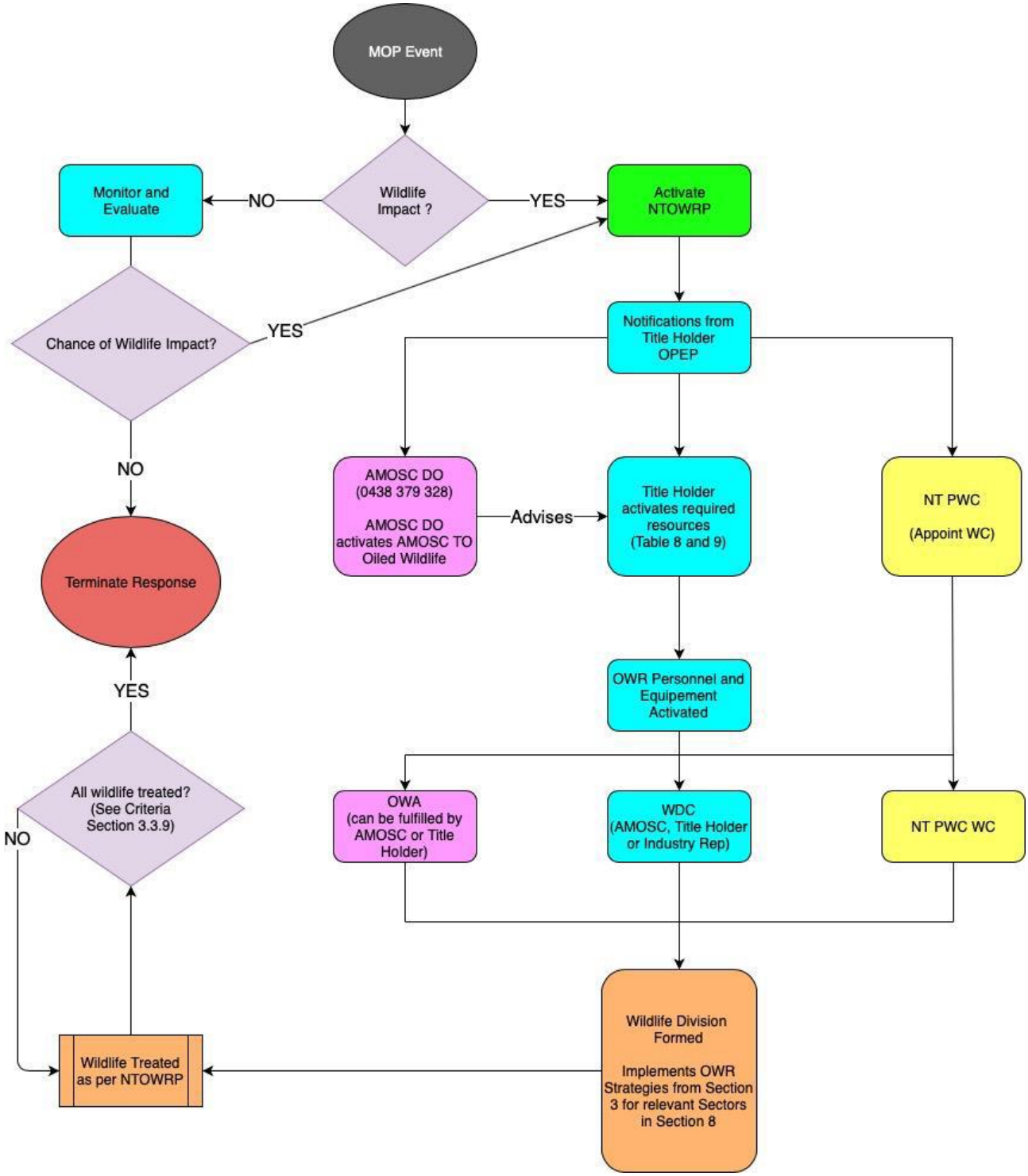


Figure 8.2: Activation of the NTOWRP (NTOWRP, v2.0, 2019)

Response Activities

Oiled Wildlife Response activities are described in detail in the WAOWRP and NTOWRP. These include:

Stage 1: Wildlife first strike response

Stage 2: Mobilisation of resources

Stage 3: Wildlife reconnaissance

Stage 4: Incident Action Plan wildlife subplan development

Stage 5: Wildlife rescue and staging

Stage 6: Oiled wildlife response facility

Stage 7: Wildlife rehabilitation

Stage 8: Oiled wildlife response termination

The WAOWRP and NTOWRP outline OWR incident levels based on the scale and severity of oiled wildlife impacts. Table 8.11 provides the indicative OWR level descriptions.

Table 8.11: OWR Levels (WAOWRP, 2014)

OWR level	Duration of OWR	Birds general	Birds OWR complex #	Turtles - hatchlings / juveniles / adults	Dolphins / Whales	Pinnipeds	Mammals terristrial	Reptiles	Dugongs
Level 1	<3 days	1-2 birds per day or < 5 total	No complex birds	None	None	None	None	None	None
Level 2	4-14 days	1-5 birds per day or <20 total	No complex birds	< 20 hatchlings no Juveniles or adults	None	None	None	None	None
Level 3	4-14 days	5-10 birds per day or < 50 total	1-5 birds per day or <10 total	< 5 juv/adults, < 50 hatchlings	None	< 5 seals	< 5	< 5 - no crocodiles	None
Level 4	>14 days	5-10 birds per day or < 200 total	5-10 birds p/day	< 20 juv/adults < 500 hatchlings	< 5 or known habitats affected	5-50 seals	5-50 mammals	5-50 reptiles	Dugong habitat affected only
Level 5	>14 days	10-100 birds per day or > 200 total	10-50 birds per day	>20 juv/adults, > 500 hatchlings	>5 dolphins	> 50 seals	> 50 mammals	>50 reptiles	Dugongs oiled
Level 6	>14 days	>100 birds for day	10-50 birds per day	>20 juv/adults, > 500 hatchlings	>5 dolphins	> 50 seals	> 50 mammals	>50 reptiles	Dugongs oiled
# Threatened species, protected by treaty, or specialist feeders									

The WAOWRP and NTOWRP also provide indicative personnel numbers and role requirements for each OWR Level shown in Table 8.12.

Table 8.12: Indicative OWR personnel resourcing

Category	Role	OWR Skill Level	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
Strategic	Oiled Wildlife Advisor	OWR 4	1^{+1}	1^{+1}	1^{+1}	1^{+1}	1^{+1}	1^{+1}
	Wildlife Division Coordinator**	OWR 4			1	1	1	1
	Wildlife Operations Officer**	OWR 3			1	1	1	1
	Wildlife logistics Officer	OWR 3		1	1	1	1	1
	Wildlife Plannning Officer	OWR 3			1	1	1	1
	Wildlife Finance/Admin Officer	OWR 3			1	1	1	1
	Wildlife Communications Officer	OWR 2			1	1	1	1
	Wildlife Situation Officer	OWR 2			1	1	1	1
	Wildlife Supply/Resource Officer	OWR 2		1	1	1	1	1
	Wildlife Safety Officer	OWR2			1	1	1	1
	Wildlife Volunteer Coordinator	OWR 2			1	1	1	1
Staging Area / Facilities	Wildlife Staging Area Manager*	OWR 2			1	1	2	2
	Wildlife Staging Area / intake Team	OWR 1			3	3	6	8
	Wildlife Facilities Manager *	OWR 2	1	1	1	1	1	1
	Wildlife Trades assistants	Specified Skill			1	2	3	3
	Wildlife housekeeper	OWR 1			1	1	2	3
	Wildlife Security	Specified Skill			1	1	1	1
Re-connaissance	Wildlife Reconnaissance Officer	OWR 2			1	1	1	1
	Wildlife Aviation Supervisor	OWR 2				1	1	1
	Wildlife Vessel Supervisor	OWR 2	1	1	1	1	1	1
	Wildlife Shoreline Supervisor	OWR 2				1	1	1
	Wildlife Reconnaissance Team	OWR 1			2	4	6	8
Rescue	Wildlife Rescue Officer	OWR 2		1	1	1	1	1
	Wildlife Exposure Modification Officer	OWR 2		1	1	1	1	1
	Wildlife Field Collection Team	OWR 1	2	3	6	9	22	22
	Wildlife Transport Officer	OWR 2		1	1	1	1	1
Rehabilitation	Triage officer	OWR 2		1	1	1	1	1
	Triage team	OWR 1		1	4	5	5	6
	Wildlife Vetrinarian *	Specified Skill		1	1	3	3	3
	Wildlife Vetrinarian technician *	Specified Skill			1	1	1	1
	Wildlife Stabilisation Officer	OWR 2	2	1	1	1	1	1
	Wildlife Rehabilitation Officer	OWR 2		1	1	1	1	1
	Facilities Team	OWR 1		3	4	6	8	8
	washing/drying personnel ***	OWR 1		4	6	10	15	15
	Recovery/release personnel ***	OWR 1		3	8	10	20	20
Total number of personnel			**6**	**26**	**59**	**77**	**116**	**122**
NOTES	* 1 person per facility	*** Volunteers can be used to make up more numbers in this category where necessary						
	** May have deputy	Note: All Supervisor/coordinator positions should employ a scribe from level 4>						
	1^{+1} = In an industry spill there may be two oiled wildlife advisors (1 DPaW, 1 industry)							

Oiled wildlife response core group first mobilises to the staging post and/or vessel(s) and spill location, it may be some time before they can rely on the IMT supply chain for delivery of specialised equipment (for fauna capture, stabilisation, containment and transport to an oiled wildlife response facility). Oiled Wildlife Coordinators will mobilise with sufficient PPE and fauna triage equipment to last for at least 72 hours. This will enable larger quantities of equipment to be procured and mobilised aligned with the scale of the response.

OWR Facility Establishment

Staging centres and treatment facilities will be established in locations based on guidelines provided in the WAOWRP or NTOWRP. Possible locations identified in the NTOWRP for staging or holding centres include but are not limited to Wadeye, Fossil Camp, Hyland Bay, Cape Dombey, Ditchi Camp, Bulgul, Dundee and Darwin. Treatment and rehabilitation centres would most likely be established in Wadeye or Darwin, if required.

Transport times to urban centres are also shown in Figure 3.1. Estimated travel times between NT coastal locations are also provided in Appendix C of the NTOWRP. Transport times will dictate the level of stabilisation and en route care required for oiled wildlife to be successfully transported to treatment centres.

At a minimum animals will be checked for broken bones prior to transport and, if detected, euthanasia will be considered. Wildlife will be stabilised prior to transport to a treatment facility and kept in a stress free, temperature controlled environment. If transits take longer than 2 hours then animals should be rehydrated. Preliminary cleaning of skin, feathers with sorbents may also be considered.

8.4.3 Termination Criteria

The oiled wildlife response strategy will cease when

- Collection forays fail to find any new oiled fauna;
- Oiled wildlife recovery operations have ceased; and
- All recovered animals have been cleaned and rehabilitated

as advised by an appropriately qualified panel of experts and directed by Control Agency.

8.4.4 Response Required and Adequacy

The capability detailed in Table 8.11 provides the capacity for a level 5 OWR (ability to treat approximately 600 wildlife by day 6 of mobilisation), with additional capacity available through the National Plan. Materials for holding facilities, portable pools, enclosures and rehabilitation areas would be sourced as required.

There is no shoreline accumulation from a well-blowout event. In the event of a 250 m^3 Blacktip condensate spill over a 24-hour period from the SPM a maximum of 2.5 m^3 and 0.6 m^3 may accumulate on the JBG East and JBG West respectively. In the event of a diesel spill releasing 100m^3, the largest volume potentially stranded on shore is 60m^3. A shoreline oiled wildlife response is therefore unlikely, however is presented in this OPEP to show clean-up capability, should one be required.

Surface oil concentrations from a well blowout of 4,943 m^3 Blacktip condensate are not predicted to exceed 10 g/m^2 and 25 g/m^2 thresholds at probabilities greater than 1% and are highly localised around the release site. The maximum distance to the outer extent of the 1 g/m^2 is predicted to be 19 km. Floating oil concentrations from a 250m^3 Blacktip condensate release at the SPM was not predicted to exceed 1 g/m^2 after 32 hours from the spill commencement respectively. An extensive offshore oiled wildlife response is therefore not anticipated.

8.4.5 Environmental Performance Outcomes, Environmental Performance Standards and Measurement Criteria

OILED WILDLIFE		
EPO: Oiled Wildlife Response is conducted in accordance with the Western Australian Oiled Wildlife Response Plan (WAOWRP) and is also conducted in accordance *Animal Welfare Act 2002*.		
Control	**PS**	**MC**
Wildlife response equipment	Contracted capability for one fauna kit for immediate mobilisation, which can treat up to 100 individual fauna.	AMOSC Participating Member Contract
	National plan access to additional resources under the guidance of the WA DoT / NT DIPL (up to a Level 5 oiled wildlife response as specified in the WAOWRP).	MoU for access to National Plan resources
Wildlife responders	Wildlife responders to be accessed through existing contracts.	AMOSC Participating Member Contract
	Oiled wildlife operations (including hazing) would be implemented with advice and assistance from the Oiled Wildlife Advisor from the DBCA.	IAP documentation

8.5 Waste Management

Hydrocarbon	Applicability
Blacktip Condensate	✓
MDO/MGO	✓

8.5.1 Overview

The temporary storage, transport, treatment and disposal of waste material must be correctly managed to safeguard against any adverse environmental effects which may inhibit clean-up activities or pose unnecessary threat to the environment. In line with Eni Waste Management Standard (ENI-HSE-ST-059), the waste management hierarchy will be implemented during a response option. The priorities are:

- prevention
- reduction
- re-use
- recycling/recovery
- responsible disposal.

The IMT Operations Officer may appoint a Waste Management Coordinator (WMC) (see Figure 5.3) to undertake the task of managing waste. For any spill likely to produce significant amounts of waste, the WMC will develop a Waste Management Sub-Plan. Marine response units will require assistance in the establishment of storage facilities on jetties or other locations. Shoreline units may require assistance in the establishment of temporary waste storage areas behind beaches being cleaned.

As far as reasonably practicable, wastes will be segregated in accordance with Table 8.13. For large spills, or those where it is not possible to effectively segregate wastes entirely in the field, the 'field' segregations can be used.

Table 8.13: Segregation of wastes

Field Segregation		Preferred Segregation
Liquid	Oils	Non-emulsified oils
		Emulsified oils
	Waste water	Water from temporary storage
		Water from heat or gravity separation of emulsions
		Water from chemically demulsified oil
Solid	Oils	High pour point oils
		High viscosity emulsions
		Tar balls
	Oily debris	Oil mixed with cobble or sand

Field Segregation		Preferred Segregation
		Oil mixed with wood, vegetation, plastics or sorbents
	Oiled pollution response equipment	Sorbents, pads, shovels, PPE, drums and bags
	Domestic waste	Food waste, drink bottles

Note: Any container used for storage must be covered if rain is forecast, to avoid overflow. Attention should be given to preventing leaching or spillage from the storage area by using plastic sheeting.

8.5.2 Capability and Resources

In a spill, AMOSC resources would be deployed to manage waste from shoreline clean-up. Table 8.14 lists some of the equipment available for transporting of wastes along shorelines and provides some handling guidelines.

Table 8.14: Temporary waste storage and handling

Product	Qty available	Location	Resource Owner
Vikotank 13000 litres	1	Broome, WA	AMOSC
IBC	2	Broome, WA	
	2	Exmouth, WA	
Fastank Temporary Storage	2	Exmouth, WA	
	2	Fremantle, WA	
Wheelbarrow	10	Exmouth	
25 Cube Deck Storage Tanks	3	Fremantle, WA	
LCT 11.4 Collapsible Storage Tank	4	Fremantle, WA	

Note: Care should be taken that all vessels, vehicles, or containers used to transport oily wastes are sealed and leak-proof.

Table 8.15 lists some of the equipment available for transporting of wastes along shorelines and provides some handling guidelines.

Table 8.15: Temporary waste storage and handling

Waste Type	Container	Handling	
Liquid Oils and Waste Water	200 L drums	Onshore	Half fill only, care in handling.
	Fast tank	Onshore	Can be used for transport on truck with care.
	Skips	Offshore/onshore	Bottom drainage hole to be plugged.
	Large flexible bags/ containers	Offshore/onshore	Onshore should be loaded onto flat-bed trucks prior to filling.

Waste Type	Container	Handling	
	Barges and Dracones	Offshore	-
Solid Oils and Oily Debris	200-liter drums	Onshore	Half fill only, care in handling.
	Skips	Onshore	Bottom drainage hole to be plugged.
	Plastic bags	Onshore	Various sizes for easy handling in remote locations – double bagging and a maximum of 10 kg each.
	Skips	Onshore	Bottom drainage hole to be plugged.

Note: Care should be taken that all vessels, vehicles, or containers used for the transport of oily wastes are sealed and leak-proof.

Shoreline waste will be stored initially onshore at the location in dedicated areas above the high tide line, then pickup and disposal will occur. The location on which it is stored will be determined as part of the shoreline clean-up assessment. Eni has arrangements in place with TOLL Group, which has a number of barges, vessels and landing craft available in Darwin.

The Logistics contract with TOLL also includes disposal of waste. TOLL currently deal with all waste resulting from Eni operations in the Joseph Bonaparte Gulf through their Darwin supply base. Other sites for storage and hydrocarbon treatment in northern WA include Broome, Dampier and Perth. TOLL will dispose of the oily waste at a licensed facility in the following ways:

- hydrocyclone processing;
- evaporation ponds;
- landfill; and
- remediation.

8.5.3 Termination Criteria

Waste management response strategy will only cease when:

- Clean-up is having no further beneficial effects on the shoreline or associated plants or animals.
- The extent and degree of oiling is judged to be acceptable or having little or no adverse effects NEBA concludes that continued activity will produce little or no environmental benefit.
- Collected oil from waste recovery activities is collected and removed from the site.

8.5.4 Response Required and Adequacy

There is no shoreline accumulation from a well-blowout event. In the event of a 250 m^3 Blacktip condensate spill over a 24-hour period from the SPM a maximum of 2.5 m^3 and 0.6 m^3 may accumulate on the JBG East and JBG West respectively. In the event of a diesel spill releasing 100m^3, the largest volume potentially stranded on shore is 60m^3.

A shoreline clean-up response generating significant waste is therefore unlikely (see Section 8.3.8). In addition, no containment and recovery operations are foreseen, thereby minimising offshore waste. However waste management is presented in this OPEP to show capability, should it be required.

8.5.5 Environmental Performance Outcomes, Environmental Performance Standards and Measurement Criteria

Waste Management		
EPO: Waste will be managed, tracked and disposed of in accordance with laws and regulations		
Control	**PS**	**MC**
Waste management	Recovered hydrocarbons and wastes will be transferred to licensed treatment facility.	Waste transfer notes
	Contract with waste management services for transport, removal, treatment and disposal of waste	Contract in place for logistics, treatment and disposal of wasters
	Waste management provider support staff available year-round to assist in the event of an incident with waste management as detailed in contract.	Contract in place which shows access to labour hire.

8.6 Operational and Scientific Monitoring Program

Hydrocarbon	Applicability
Blacktip Condensate	✓
MDO/MGO	✓

Eni has prepared an OSMP for its activities in the Joseph Bonaparte Gulf (JBG) for use in the event of a large spill (Appendix G). This is directly applicable in the unlikely event of a large spill from Blacktip. The OSMP provides guidance on how and when monitoring data will be collected in the event of a Level 2 or 3 hydrocarbon spill. The data generated will be used to:

- determine the magnitude of short and long term environmental impacts associated with the spill (and its response), including the extent, severity and persistence of the impacts
- support the planning and execution of the hydrocarbon spill response activities set out in the OPEP
- inform remediation efforts, if required
- determine whether environmental performance outcomes have been achieved.

8.6.1 Mobilisation

Operational Monitoring is activated in accordance with the Activation criteria within each of the individual Operational Monitoring Plans (OMPs), as defined in the OSMP (Appendix J).

Before After Control Impact (BACI) Study Design

Where suitable existing baseline data is available as outlined in the OSMP or where trajectory modelling completed as part of OMP1 shows contact is not predicted within20 days, a Before After Control Impact (BACI) survey approach may be considered. Eni will notify consultancies of the ENI Environmental Panel Contract at the time of a large spill event (Level 2/3) with the potential for scientific monitoring studies to be triggered, this will allow mobilisation and monitoring to be undertaken within approximately 20 days which allows for sufficient time to source vessels/aircraft, finalise the monitoring design, prepare HSE documentation and mobilise to site.

Inference from Change Over Time

For some spills and some receptors there may not be suitable reference sites that can be considered comparable to the impact sites. Where suitable control/reference sites are not available, an Inference from Change Over Time study design should be considered. This study design is reliant on robust baseline information at sites that will be contacted from the spill. This data could be collected pre-impact where impact is not predicted until at least 20 days to allow for sufficient planning and preparation time, or where there are existing suitable baseline data sets.

Inference from Change Over Space

This study design would be considered where limited or no pre-impact baseline data exists and data cannot be collected prior to impact. The studies would focus on representative sites at increasing distances from the source of impact (the spill).

Additional temporal data may need to be considered when using this study design to account for other environmental factors (seasonality). Control or reference sites may be used in the design of these gradient based studies to help in the assessment of restoration.

Data from OMP1, OMP2 and OMP3 would be used in defining the area impacted from the spill when considering sites to assess the gradient of impact.

Time to contact sensitive receptors

In the event of a well blowout, no shoreline contact is predicted (less than 1% probability). The minimum time for entrained oil to contact the Carbonate Bank and Terrace System of the Sahul Shelf at >100 ppb is 34 hours. Entrained oil contact with other sensitive receptors (JBG AMP, Kimberley AMP, Kimberley Coast) is not predicted within 13 days.

In the event of a leak or spill at the SPM, the minimum time to reach the nearest shoreline, JBG East Coast, is 2 hours. An Inference from Change Over Space study design would be considered in this situation.

8.6.2 Environmental Performance Outcomes, Environmental Performance Standards and Measurement Criteria

Operational and Scientific Monitoring		
EPO: OSMP is implemented to meet the objectives of the individual Operational Monitoring Plans (OMPs) and Scientific Monitoring Plans (SMPs)		
Control	**PS**	**MC**
To maintain a state of readiness for implementation of the OSMP	Arrangements in place for implementation of OMP1, OMP2 and OMP3 through AMOSC, AMSA National Plan and OSRL.	MoU for access to National Plan resources through AMSA AMOSC Participating Member Contract OSRL Associate Member Contract
	Arrangements in place for implementation of SMP1: Wildlife Impact Monitoring and Sampling	AMOSC Participating Member Contract Resources detailed in the NT Oiled Wildlife Response Plan
	Arrangements in place for implementation of SMP2: Shoreline Ecological Assessment Aerial Surveys	MoU for access to National Plan resources through AMSA AMOSC Participating Member Contract OSRL Associate Member Contract The Eni Environment and Social Impact Consultancy Services Panel Contract provides an existing framework for immediate engagement of a contractor.
	Arrangements in place for implementation of SMP3:	MoU for access to National Plan resources through AMSA

Operational and Scientific Monitoring		
EPO: OSMP is implemented to meet the objectives of the individual Operational Monitoring Plans (OMPs) and Scientific Monitoring Plans (SMPs)		
Control	**PS**	**MC**
	Assessment of fish for the presence of hydrocarbons	AMOSC Participating Member Contract OSRL Associate Member Contract The Eni Environment and Social Impact Consultancy Services Panel Contract provides an existing framework for immediate engagement of a contractor.
	Arrangements in place for implementation of SMP4: Fisheries Assessment	AMOSC Participating Member Contract The Eni Environment and Social Impact Consultancy Services Panel Contract provides an existing framework for immediate engagement of a contractor.
	Arrangements in place for implementation of SMP5: Shoreline Ecological Surveys	AMOSC Participating Member Contract The Eni Environment and Social Impact Consultancy Services Panel Contract provides an existing framework for immediate engagement of a contractor.
Vessel availability	Vessel is available for OMP and SMP within 72 hours of mobilisation	Logistics contracts include vessel hire.
Termination criteria	Individual OMPs and SMPs are terminated when specific criteria has been met as per individual plans	IAP documentation

8.7 Spill Response Termination

Upon conclusion of the spill response activity, Eni will complete the following tasks:

- Prepare detailed reports and collate all documents;
- Report on the performance objectives of each individual spill response that was mobilised;
- Undertake an inventory of consumables and prepare accounts;
- Arrange for the return of equipment;
- Arrange for the refurbishment of consumed equipment;

- Conduct an investigation into the cause of the incident and report to relevant authorities; and
- Assess long-term environmental monitoring requirements.

Response termination of the OMP and SMPs are described in the Blacktip OSMP (Appendix J).

9. TRAINING, EXERCISE AND AUDIT

9.1 CMT/IMT Training

All personnel nominated to the IMT, must be trained to an appropriate level and in appropriate procedures relevant to their role. Training specific to each IMT role is identified in the HSE Training Needs Analysis.

Predetermined IMT members shall endeavour to attend at least one IMT training event per year. Training activities consist of:

- Basic IMT training, comprising role specific training and team training, during which at least two scenarios shall be included;
- Refresher IMT training, during which at least one scenario shall be included, which may include oil spill;
- Relevant IMO or ICS training courses or refresher sessions;
- Project specific briefings, prior to the commencement of operation or if major changes take place to a project; and
- Level 2 and 3 emergency drills as per the 1 and 4Y program.

Classroom training will be supported by regular exercises to ensure that acquired competencies are maintained. In addition, the minimum oil spill response training levels required for each Eni oil spill response related IMT positions are summarised below.

Table 9.1: Minimum oil spill response training requirements for Eni

Position	**Minimum Training Level**				
	IMT and oil spill response training*	**Oil spill response IMO2**	**Oil spill response IMO3**	**Exercises and drills**	**Environment Scientific and Technical training**
Frequency	Annual	Every 3 years	Every 3 years	Every 4 years	Every 3 years
IMT positions					
IMT Leader	✓		✓	✓	
Planning Officer	✓	✓		✓	
Operations Officer	✓	✓		✓	
Logistics Officer	✓	R		✓	
Safety Officer	✓	R		✓	R
Liaison Officer	✓	R		✓	
Non IMT position					
HSE & CSR Manager	✓	✓	R	✓	
Operations Manager	✓	✓	R	✓	
Drilling Manager	✓	✓	R	✓	
Emergency Coordinator	✓	✓	R	✓	R
HSE Advisor	✓	✓	R	✓	R

Position	Minimum Training Level				
	IMT and oil spill response training*	**Oil spill response IMO2**	**Oil spill response IMO3**	**Exercises and drills**	**Environment Scientific and Technical training**
Environment Advisor	✓	✓	R	✓	✓

R = recommended
*Includes Basic IMT training, project briefings, IMT workshops, lunch and learns and other oil spill response training

The objective of training these personnel is to provide knowledge on the safe and efficient response to oil spills, initial assessments of spill risk, how to initiate response to an oil spill, protection priorities, correct response options, limitations of response options and equipment, and the needs of the media.

Predetermined IMT members, including those who would represent Eni on WA DoT / NT DIPL IMT, shall endeavour to attend at least one IMT training event per year.

All members of the IMT are required to periodically participate in drills and oil spill response training workshops, which typically include:

- Scenario workshops
- Overview to oil spill response
- Overview of emergency response and IMT roles
- Familiarisation with OPEP
- Toolboxes.

A toolbox upon implementation of an OPEP revision and also prior to drilling being undertaken with the IMT members with the aim of informing them of any changes and familiarising them with the OPEP contents.

In addition, a level 2/3 desktop exercise will be undertaken prior to drilling of the P3 development well to ensure that the IMT is prepared prior to drilling.

9.2 Oil Spill Responders

In a spill, all response operations will be led by trained response personnel (AMOSC core group, AMSA National Response Team, OSRL). These lead personnel as a minimum are to have IMO Level 1 in Oil Spill Response (operations) training (as specified by the NatPlan and AMOSPlan competency requirements). Before undertaking a response operation (containment and recovery, wildlife clean-up), the lead person will provide additional training for the crew of responders that will specify:

- the response aims and objectives
- equipment/components involved
- practicalities of the response (deployment of booms)
- safety aspects of the operations.

These arrangements are appropriate to ensure all IMT personnel and vessel crews have the suitable level of training and competencies to perform their roles in an oil spill response.

Eni has access to external trained spill responder resources

- National Plan: National Response Team (NRT) – Trained oil spill response specialists including aerial observers, containment and recovery crews deployed under the direction of AMSA and IMT in a response. The NRT is trained and managed in accordance with the National Response Team Policy, approved by the National Plan Strategic Coordination Committee (AMSA, 2014).
- MEE: Oil pollution response teams available to assist under the jurisdiction of the WA DoT.
- NT OSCP: State Response Team (SRT) and NW Regional Response Team (RRT) – Oil pollution response teams available to assist under the jurisdiction of the NT DIPL.
- Workforce Labour Hire companies capable of supplying > 2000 personnel at short notice. Personnel will take up roles within Oiled Wildlife Response Teams.

9.3 Competency of Vessel Contractors

All contractors will attend relevant project specific briefings and project inductions, which will include oil spill awareness and guidance regarding visual observation.

Field response activities by vessel contractors will be limited to surveillance and activities related to their normal position (e.g. logistics). Therefore, no other specialised spill response training is anticipated for vessel contractors.

9.4 Oil spill response organisations

AMOSC undergoes annual audits of its oil spill preparedness and ability to respond according to the service level agreement. The reports are available on the AMOSC online member portal.

OSRL maintains assurance of its oil spill preparedness and capabilities through regular external and internal organisational audits, equipment audits, weekly checks, and a global programme of exercises to confirm personnel readiness.

9.5 Testing Arrangements

Eni test oil spill response arrangements in accordance with the *Offshore Petroleum and Greenhouse Gas Storage (Environmental) Regulation 2009*, outlined below (Table 9.2).

Table 9.2: Testing requirements and arrangements

OPGGS(E)Requirements	Description
As per Regulation 14(8B) of the OPGGS(E)R 2009, the arrangements for testing the response arrangements must include:	
A statement of the objectives of testing	SOPEP testing provides an opportunity for crew to gain confidence in using onboard spill equipment and implementing incident response procedures, increase efficiency in the event of an emergency, review the efficiency of procedures and detect any failures in equipment.

OPGGS(E)Requirements	Description
	Testing will be organized in accordance with the Professional Operating Instruction for Planning and Execution of Emergency Drills, including setting an objective for the emergency drill. Testing oil spill preparedness is carried out against defined oil spill preparedness performance objectives and standards which are provided in the OPEP. Testing will also ensure that the timings presented in the OPEP are able to be met, that contracts are in place and contractors have maintained their response capabilities as per the contract.
A proposed schedule of tests	Regular drills and exercises (three monthly) are carried out on all vessels in line with IMO/SOPEP. These drills include, but are not limited to, spill response, collision and grounding, fire and explosion and helicopter emergency.
	Level 2/3 OPEP exercise will occur every 12 months, including prior to the P3 drilling activity commencing.
Mechanisms to examine the effectiveness of response arrangements against the objectives of testing	In particular: • issues raised (if any) described in daily report • weekly checklist ensures spill monitoring equipment is in place and fully stocked • periodic review of the EP and OPEP • requirements described for testing below.
	Testing will be organized in accordance with the Professional Operating Instruction for Planning and Execution of Emergency Drills, including setting an objective for the emergency drill. Testing oil spill preparedness is carried out against defined oil spill preparedness performance objectives and standards which are provided in the OPEP and with the aim of ensuring strategies within this OPEP are able to be implemented efficiently.
Mechanisms to address recommendations arising from tests	As mentioned, issues raised (if any) resulting from IMO/SOPEP testing will be described in daily report. The OIM (Drilling) and Vessel Master is made aware that the change is managed to this OPEP and this EP through MoC
	The OPEP drill reports will be used to issue action plans that will identify corrective actions needed and assign responsibilities, roles and schedules for their implementation.

OPGGS(E)Requirements	Description
As per Regulation 14(8C) of the OPGGS(E)R 2009, the proposed schedule of tests must provide for the following:	
Testing the response arrangements when they are introduced	A SOPEP drill onboard all vessels will be carried out prior to the commencement of the activity.
	A Level 2/3 OPEP exercise will be carried out prior to the P3 drilling commencing
Testing the response arrangements when they are significantly amended	Any changes to the OPEP or EP will be introduced through the MoC. Where changes reasonably affect the arrangements in place, the changed arrangements will be tested prior to finalising the MoC. Arrangements will be tested when the OPEP is significantly amended.
Testing the response arrangements not later than 12 months after the most recent test.	SOPEP drills will occur every three (3) months
	Level 2/3 OPEP exercise will occur every 12 months, including prior to the P3 drilling activity commencing.
If a new location for the activity is added to the environment plan after the response arrangements have been tested, and before the next test is conducted—testing the response arrangements in relation to the new location as soon as practicable after it is added to the plan.	No activity will occur outside the Operational Area
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.	Not applicable

9.6 Response Testing

Emergency response drills may be either desktop exercises or field-based response exercises. Testing of OPEP response arrangements will be conducted annually in accordance with the Eni 4Y Emergency Exercise Plan.

Eni will maintain a high standard of oil spill response preparedness through:

- training Eni personnel, particularly those nominated to IMT or CMT (See Section 9.1);
- the Eni Incident Management Plan (ENI-HSE-PL-034);
- ensuring Contractors can respond as required (e.g. that they have sufficient levels of trained personnel and response equipment);

- outlining ongoing capability through exercises and drills in accordance with the Eni 4Y Emergency Exercise Plan;
- completing ongoing audits to review that the above are being effective.

The HSE & CSR manager is responsible for ensuring annual oil spill response drills and assessment of the performance of the IMT is undertaken. In addition, regular audits of oil spill response preparedness will be undertaken.

Testing oil spill preparedness is carried out against defined oil spill preparedness performance objectives and standards which are provided in the OPEP.

Specific to the Blacktip Operations the following exercises / tests will occur:

- A level 2/3 desktop exercise prior to drilling of the P3 development well
- Periodic testing of the OSMP, Source Control, OSR provider arrangements, specific response strategies in line with the 4Y Emergency Exercise Plan

Testing will be organized in accordance with the Professional Operating Instruction for Planning and Execution of Emergency Drills, including setting an objective for the emergency drill, debriefing and preparation of an emergency drill report to summarise the evaluation of the drill and highlight strength and improvement areas.

On completion of testing, a drill report is produced to demonstrate the outcomes achieved against the tested objectives (defined prior to testing). The drill report typically includes:

- lessons learned,
- any improvement actions
- list of the participants.

The drill reports may also be used to issue action plans that will identify corrective actions needed and assign responsibilities, roles and schedules for their implementation.

9.7 OPEP Review and Audits

The HSE & CSR manager is responsible for ensuring that the OPEP is regularly revised and updated as required and for ensuring that any revisions are distributed. This OPEP will be kept up to date and will be reviewed:

- at least every two years;
- when major changes which may affect the oil spill response coordination or capabilities have occurred;
- A change in the availability of equipment stockpiles;
- following routine testing of the plan (to incorporate, where relevant, lessons learned), or
- The introduction of a new or improved technology that may be considered in a response for this activity
- change in the availability of personnel that reduces or improves preparedness and the capacity to respond;
- after an actual emergency.

If national or state response frameworks and integration with these frameworks changes.

The deployment readiness and capability of AMOSC's oil spill response equipment and resources in Geelong and Fremantle is audited every two years by AMOSC member companies on behalf of AMOSC member companies, including Eni. In the intervening year between Audits the progress of Audit Actions will be followed up. The intent of this audit is to provide assurances to Eni and associated members of AMOSC's ability to respond to an oil spill incident as per the methods and responsibilities defined in Eni's Oil Pollution Emergency Plans.

The deployment readiness and capability of OSRL's oil spill response equipment and personnel in Singapore is audited every two years by the Emergency & Oil Spill Coordinator or other Australian member company (Petroleum Titleholder) through agreement. The intent of this audit is to provide assurances to Eni of OSRL's ability to respond to an oil spill incident as per the methods and responsibilities defined in Eni's Oil Pollution Emergency Plans.

9.7.1 OPEP Consultation

Consultation, agreements or contracts that support Eni's oil spill response strategies and tactics have been put into place with agencies and organisations throughout the development of the OPEP so that roles and responsibilities are understood and accepted.

The OPEP will be revised and updated should a stakeholder's position change after acceptance of this OPEP.

10. REFERENCES

AMSA, (2011) National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances (National Plan). http://www.amsa.gov.au/publications/oilplan/nmoscp.pdf

AMSA, (2012). National Plan to Combat the Pollution of the Sea by Oil and Other Noxious and Hazardous Substances, Interim Technical Guideline for the Preparation of Marine Pollution Contingency Plans for Marine and Coastal Facilities.

Bonn Agreement Aerial Surveillance Handbook (BAASH), (2004) Annex A: The Bonn Agreement Oil Appearance Code. Online resource, accessed on 27 February 2012 at: http://www.bonnagreement.org/eng/doc/aerial%20surveillance%20Handbook%202004%20-%20English%20version.pdf

Department of Lands and Planning (DLP), (2012) Northern Territory Oil Spill Contingency Plan, Online resource, accessed on 27 June 2012 at http://www.transport.nt.gov.au/safety/marine/general-information/marine-pollution-control/emergency-response-plan

Department of Transport (2010), WestPlan Marine Oil Pollution.

French-McCay, D. 2009. State of The Art And Research Needs For Oil Spill Impact Assessment Modelling. In: Proceedings of The 32nd AMOP Technical Seminar On Environmental Contamination And Response. Emergencies Science Division, Environment Canada. Ottawa, Ontario, Canada. Pp 601-653, 2009.

National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA) (2012), Oil Spill Contingency Planning, Environmental Guidance Note N-04700-GN0940 Rev 2, July 2012.

NT Plan, (2012) *Northern territory oil spill contingency plan*. nt department of lands and planning.

IPIECA, (2012) *Oil spill responder health and safety*. OGP Report Number 480. London, UK.

IPIECA, (2013) *The use of decanting during offshore oil spill recovery operations*. Final Report. Accessed on 01 January 2014 at <http://oilspillresponseproject.org/sites/default/files/uploads/JIP-17-Decanting.pdf>.

OSRL, (2011) OSRL Shoreline Operations Field Guide. Version 1. Accessed on 30 November 2014 at < http://www.oilspillresponse.com/attachments/technical_field_guides/Shoreline_Operations_Field_Guide.pdf>.

DoEE, (2014) Montara oil spill. Accessed on 30 November 2014 at <http://www.environment.gov.au/node/18259>.

APPENDICES

APPENDIX A

SPILL RESPONSE FORMS

eni australia

Marine Pollution Report Form
ENI-HSE-FR-028
Rev 00

POLREP

MARINE POLLUTION REPORT

INCIDENT DETAILS

Date of Incident: _____ Time of Incident *(24 hr format)*: _____

Location name/description: _____

_____

Incident Coordinates Latitude of spill _____ **Longitude of spill** _____

Format of coordinates used *(select one)*

☐ *Degrees & decimal degrees* ☐ *Degrees, minutes & decimal minutes* ☐ *Degrees, minutes &seconds*

Description of Incident:

_____

_____

POLLUTION SOURCE

☐ Vessel ☐ Land *(Specify)* _____ ☐ Other *(Specify)* _____ ☐ Unknown

Vessel type *(if known)* ☐ Tanker ☐ Container ☐ Bulk ☐ Cargo
☐ Fishing ☐ Defence ☐ Recreational ☐ Other

(Specify) _____

Vessel name: _____ Flag State / Callsign: _____ Australian vessel? ☐ Yes ☐ No

POLLUTANT

☐ **Oil** *(type)* ☐ Bilge ☐ Diesel ☐ HFO bunker ☐ Crude ☐ Unknown ☐ Other

(Specify) _____

☐ **Chemical** Name: _____ MARPOL cat / UN Nos: _____

☐ **Garbage** Details/description: _____

☐ **Packaged** Details/description: _____

☐ **Sewage** Details/description: _____

☐ **Other** Details/description: _____

EXTENT

Size of spill ***(length & width in metres):*** _____

Amount of pollutant, if known ***(litres):*** _____

Has the discharge stopped? ☐ Yes ☐ No ☐ Unknown

Weather conditions at site: _____

_____

☐ **Photos taken** Details: _____ held by: _____

☐ **Video taken** Details: _____ held by: _____

☐ **Samples taken** Details: _____ held by: _____

☐ **Items retrieved** Details: _____ held by: _____

eni australia

Marine Pollution Report Form
ENI-HSE-FR-028
Rev 00

ADDITIONAL INFORMATION

Response action undertaken? ☐ Yes ☐ No

If yes, provide details below, please include any environmental impact.

Equipment used? ☐ AMSA ☐ State / NT ☐ Industry

Is assistance for an investigation required from DPI ☐ Yes ☐ No

ORIGINAL REPORT SOURCE

Name: _____ Position: _____ Phone: _____

Combat agency: _____ Statutory agency: _____

SENDER DETAILS

Name: _____ Agency: _____ Date: _____

Phone: _____ Fax: _____ Email: _____

Eni Duty Manager to be informed on 0419 943 584

This form is to be completed with as much information as possible (regardless of the size of the spill) and emailed to:

Eni Duty Manager/IMT Leader at <info@eniaustralia.com.au

For any additional information please add extra pages as required.

eni australia

Marine Pollution Situation Report Form
ENI-HSE-FR-029
Rev 00

SITREP

MARINE POLLUTION SITUATION REPORT

Incident Name: _____ Ref. No. _____

Priority ☐ Urgent ☐ Immediate ☐ Standard

Final SITREP? ☐ Yes ☐ No Next SITREP on: _____

Date: _____ Time: _____

POLREP Reference: _____

Incident location Latitude _____ Longitude _____

Brief description of incident and impact: _____

Overall weather conditions: _____

Summary of response actions to date: _____

Current Strategies: _____

Summary of resources available/deployed: _____

Expected developments: _____

Other Information: _____

This form is to be completed with as much information as possible (regardless of the size of the spill) and emailed to:

Eni IMT Leader at <info@eniaustralia.com.au>

For any additional information please add extra pages as required

Information Required for Environmental Incident Reporting

1. Material facts and circumstances must be described, including:

a. The activity name, site/facility name or location where the incident occurred.
b. Name and business address of the titleholder of the petroleum activity.
c. Time and date of incident
d. Names and contact details of any witnesses
e. Name/position/telephone number of person submitting these details
f. Brief description and cause (if known) of the incident
g. Work/activity being undertaken at time of incident
h. For a fluid and/or gas escape:
   i) Estimated quantity and duration of escape; and
   ii) Composition of fluids or gases that escaped (including known toxicity information)
i. Environment Plan that this incident is being reported against
j. Details of the extent of the impact – including type of any environmental damage and/or areas at risk
k. Any impacts to Part 3 protected matters under the *Environment Protection and Biodiversity Conservation Act 1999*

2. Action taken to avoid or mitigate impact:

Immediate actions taken to avoid or mitigate adverse environmental impacts of the reportable incident

3. Corrective actions

Corrective actions taken, or proposed, to stop, control or remedy the reportable incident.

4. Action to prevent a similar incident

Actions taken, or proposed, to prevent a similar incident occurring in the future.

Notification of Reportable Environmental Incidents

Notification of Reportable Environmental Incident within 2 hours

When notifying NOPSEMA of a reportable environmental incident the titleholder must provide all the details that it knows or is able, by reasonable search or enquiry, to find out, as listed above in items 1 to 4. It is understood details might be limited at this early stage.

The NOPSEMA notification phone line is available to titleholders 24 hours a day. It will either be answered directly or the caller can leave a voice message, following which they will receive a call back.

Titleholders should **not** make notifications via the NOPSEMA general switchboard or their focal point specialist.

Titleholders are also required to give a written record of the notification to NOPSEMA, as well as the Titles Administrator (NOPTA) and the Department of the responsible State or Northern Territory Minister as soon as practicable after the oral notification.

Reporting of Reportable and Recordable Environmental Incidents

Written Reportable Incident Reports required within 3 days

A written report must be provided to NOPSEMA as soon as practicable, but in any case within 3 days of a reportable environmental incident unless otherwise agreed by NOPSEMA. The 3 day written report must include items 1 to 4. Titleholders may wish to utilise the NOPSEMA report form (N-03000-FM0831) available from the NOPSEMA Website: www.nopsema.gov.au

If NOPSEMA is not satisfied that the written report meets the requirements of the Regulations NOPSEMA may, by notice in writing, request additional written reports from the titleholder. The notice must identify the information to be contained in the report or matters to be addressed and specify when the report must be given to the Regulator.

Titleholders must also give a copy of the written report to both the Titles Administrator (NOPTA) and the Department of the responsible State or Northern Territory Minister within seven (7) days of giving the written report to NOPSEMA.

Written Recordable Incident Reports required each calendar month

A written report of all recordable incidents that occurred during any calendar month must be provided to NOPSEMA as soon as practicable but not later than 15 days after the end of the calendar month. The written report must contain a record of all recordable incidents during that month including details of items 1 to 4.

A Titleholder may wish to utilise the Recordable Environmental Incident Monthly Report template (N-03000-FM0928) available from the NOPSEMA Website: www.nopsema.gov.au

If no recordable incidents have occurred during any particular month a nil incident report should be submitted to NOPSEMA.

All written notifications and reports to NOPSEMA must be submitted to submissions@nopsema.gov.au or via secure file transfer at https://securefile.nopsema.gov.au/filedrop/submissions

[NOTE: This guidance note relates to the Environment Regulations in place from 28 February 2014. For environment plans accepted under the old regulations, refer to the previous incident reporting requirements.]

NOPSEMA

Guidance note

N-03000-GN0926 Rev 4, 28 February 2014

Notification and Reporting of Environmental Incidents

Core Concepts

- The titleholder has a duty to notify and report environmental incidents to the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) under Regulations 26, 26A, 26AA and 26B of the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009.
- Regulation 26 requires the titleholder to notify NOPSEMA orally of a **reportable** environmental incident as soon as practicable but not later than two (2) hours after the first occurrence of the incident or after the time that the titleholder becomes aware of the incident.
- Regulation 26(6) requires the titleholder to give a written record of the notification to NOPSEMA, the Titles Administrator and the Department of the responsible State or Northern Territory Minister as soon as practicable after the oral notification.
- Regulation 26A requires the titleholder to give NOPSEMA a written report of a **reportable** incident as soon as practicable but not later than three (3) days after the first occurrence of the incident.
- Regulation 26A(5) requires titleholders to give a copy of the written report to both the Titles Administrator and the Department of the responsible State or Northern Territory Minister within seven (7) days of giving the written report to NOPSEMA.
- Regulation 26B requires the titleholder to submit a **recordable** environmental incident report not later than 15 days after the end of each calendar month.
- Failure to notify and report environmental incidents to NOPSEMA are ***offences of strict liability***.
- The titleholder remains responsible for making notifications and other reports to other persons or organisations as may be required.

To make an oral notification to NOPSEMA of a **reportable** environmental incident call:

(08) 6461 7090

A **reportable** environmental incident is defined in Regulation 4 as;

reportable incident, *for an activity, means an incident relating to the activity that has caused, or has the potential to cause, moderate to significant environmental damage.*

The potential of an incident to cause moderate to significant environmental damage is determined during the preparation of an Environment Plan (EP). An EP should contain clear definitions of what is considered to be a reportable incident for a particular activity and should be referred to prior to notification of a reportable incident to NOPSEMA.

If in doubt, notify NOPSEMA

A **recordable** environmental incident is defined in Regulation 4 as;

recordable incident, *for an activity, means a breach of an environmental performance outcome or environmental performance standard, in the EP that applies to the activity, that is not a reportable incident*

This Guidance Note and others on the NOPSEMA website are intended to provide general guidance to the industry as to the approach that NOPSEMA takes in carrying out its regulatory functions and exercising powers under the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006* and Regulations under that Act. The Guidelines should not be relied on as advice on the law, nor treated as a substitute for legal advice in any relevant situation.

National Offshore Petroleum Safety and Environmental Management Authority A198752 Rev 4 28 February 2014 Guidance Note

NOPSEMA

Guidance Note

Notification and Reporting of Environmental Incidents

During an activity there is an environmental incident or the titleholder first becomes aware of an environmental incident

Take reasonable steps to:
- Help or rescue sick, injured or endangered personnel
- Maintain the safety of personnel and facilities
- Reduce the danger to personnel and facilities
- Contain the source of any spill or leak if safe to do so

Is the incident reportable under the environment plan for the activity?

Yes

Notify NOPSEMA orally within 2 hours

Provide a written record of the notification as soon as practicable

Guidance

The titleholder must make an oral notification to NOPSEMA, via the dedicated NOPSEMA Phone No (08) 6461 7090, within two hours, or as soon as practicable having given due regard to any immediate emergency response.

A written record of the notification must also be provided to NOPSEMA as soon as practicable.

Provide a written record of the notification to the Titles Administrator (NOPTA) and the Department of the responsible State or NT Minister

No

Provide a written report to NOPSEMA within 3 days

Provide a copy of the written report to the Titles Administrator (NOPTA) and the Department of the responsible State or NT Minister, within 7 days of providing it to NOPSEMA

Guidance

A written reportable incident report must be provided to NOPSEMA as soon as practicable, and in any case within three days of the incident, unless otherwise agreed by NOPSEMA.

The written report should include as a minimum items 1 to 4 (see over) and be submitted to submissions@nopsema.gov.au or via secure file transfer at https://securefile.nopsema.gov.au/filedrop/submissions

Guidance

If in doubt

Notify NOPSEMA

by calling

(08) 6461 7090

Submit reportable incident reports to NOPSEMA via email:

submissions@nopsema.gov.au

or via secure file transfer at https://securefile.nopsema.gov.au/filedrop/submissions

Does the incident breach a performance outcome or standard in the environment plan that applies to the activity, but it is not defined as a reportable incident?

Yes

Include the incident in the monthly recordable incident report to NOPSEMA

Guidance

A written recordable incident report must be provided to NOPSEMA as soon as practicable after the end of the calendar month and in any case not later than 15 days after the end of the calendar month. The written report must contain all recordable incidents that occurred during the calendar month, should include items 1 to 4 (see over) for each incident and be submitted to submissions@nopsema.gov.au or via secure file transfer at https://securefile.nopsema.gov.au/filedrop/submissions

No

No requirement to report to NOPSEMA

N-03000-GN0926

National Offshore Petroleum Safety and Environmental Management Authority A198752 Rev 4 28 February 2014 Guidance Note

NOPSEMA

FORM FM0831

N-03000-FM0831 Revision 8 January 2015

Report of an accident, dangerous occurrence or environmental incident

For instructions and general guidance in the use of this form, please see the last page.

Part 1 is required within 3 days of a notified incident.
Part 2 is required within 30 days of notified incident.

What was the date and time of the initial verbal incident notification to NOPSEMA?			
Date		**Time**	

NOTE: It is a requirement to request permission to interfere with the site of an accident or dangerous occurrence. Refer OPGGS(S)R, Reg. 2.49.

What is the date and time of this written incident report?			
Date		**Time**	

What type of incident is being reported?	***Please tick appropriate incident type***	
Accident or dangerous occurrence	☐	Complete parts 1A, 1B & part 2
Environmental Incident	☐	Complete parts 1A, 1C
BOTH (Accident or dangerous occurrence AND environmental incident)	☐	Complete ALL parts (1A, 1B, 1C, 2)

Please tick all applicable (one or more categories) *To use electronically: MS Word 2007-10 – click in check box*

Categories *Please select one or more*	Accidents	Death or Serious injury	☐
		Lost time injury ≥3 days	☐
	Dangerous occurrences	Hydrocarbon release >1 kg or ≥80 L (gas or liquid)	☐
		Fire or explosion	☐
		Collision marine vessel and facility	☐
		Could have caused death, serious injury or LTI	☐
		Damage to safety-critical equipment	☐
		Unplanned event - implement ERP	☐
		Pipeline incident	☐
		Well kick >50 barrels	☐
		Other _____	☐
	Environmental incidents	Hydrocarbon release	☐
		Chemical release	☐
		Drilling fluid/mud release	☐
		Fauna Incident	☐
		Other _____	☐

Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident

General information – all incidents

1.	**Where did the incident occur?**	Facility / field / title name		
		Site name and location *Latitude/longitude*		
2.	**Who is the registered operator/titleholder or other person that controls the works site or activity?**	Name		
		Business address		
		Business phone no.		
3.	**When did the incident occur?**	Time and time zone		
		Date		
4.	**Did anyone witness the incident?**	Yes or no *If yes, provide details below*		
	Witness details	Witness no 1	Witness no 2	Witness no 3
	Full name			
	Phone no. (Business hours)			
	Phone no. (Home) (Mobile)			
	Email (Business) (Private)			
	Postal address			
	NB: If more witnesses, copy and insert this section (4) here , and add extra witness numbers appropriately			
5.	**Details of person submitting this information**	Name		
		Position		
		Email		
		Telephone no.		
6.	**Brief description of incident**			
7.	**Work or activity being undertaken at time of incident**			

Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident

General information – all incidents

8.	**What are the internal investigation arrangements?**					
9.	**Was there any loss of containment of any fluid (liquid or gas)?**	Yes or no *If Yes, provide details below*				
		Type of fluid (liquid or gas) *If hydrocarbon release please complete item no.15 as well*	Hydrocarbon ☐ *Please specify*_____ Non-hydrocarbon ☐ *Please specify*_____			
		Estimated quantity *Liquid (L), Gas (kg)*				
		Estimation details	Calculation ☐	Measurement ☐		
			*Please specify*_____			
		Composition *Percentage and description*				
		Known toxicity to people and/or environment	Toxicity to people			
			Toxicity to environment			
		How was the leak/spill detected?	F&G detection ☐ CCTV ☐	Visual ☐ Other ☐		
		Did ignition occur?	No ☐ Yes ☐	Immediate ☐ Delayed ☐		
			If yes, what was the likely ignition source	Hotwork ☐ Spark electrical source ☐ Spark metallic contact ☐ Hot surface ☐ Other ☐		
10.	**Has the release been stopped and/or contained?**	Yes or no				
		Duration of the release *hh:mm:ss*				
		Estimated rate of release *Litres or kg per hour*				
11.	**Location of release**	What or where is the location of the release?				
		What equipment was involved in the release?				
		Is this functional location listed as safety-critical equipment?				

Part 1A – Information required within 3 days of an accident, dangerous occurrence or environmental incident

General information – all incidents

12.	**Weather conditions** *Please complete as appropriate*	Ambient temperature C°				
		Relative humidity %				
		Wind speed m/s *NB: for enclosed areas use* Air change per hour				
		Wind direction e.g. from SW				
		Significant wave height m				
		Swell m				
		Current speed m/s				
		Current direction e.g. from SW				
13.	**Hydrocarbon release details** *If hydrocarbon fluid (liquid or gas) was released, please complete this section as well*	System of hydrocarbon release	Process ☐ Drilling ☐ Subsea / Pipeline ☐		Utilities ☐ Well related ☐ Marine ☐	
		Estimated inventory in the isolatable system *Litres or kg*				
		System pressure and size of piping or vessel *diameter (d in mm) length (l in m) or volume (V in L)*	Pressure MPag			
			Size Piping (d) and Piping (l) or Vessel (V)			
		Estimated equivalent hole diameter *d in mm*				

Part 1B - Complete for accidents or dangerous occurrences

Accidents and dangerous occurrences information

	Was NOPSEMA notified through the dedicated notification phone line? *Phone No. 08 6461 7090*		Yes	☐	No	☐
15.	**Action taken to make the work-site safe**	Was permission given by a NOPSEMA inspector to interfere with the site? OPGGS(S)R 2.49.	Yes	☐	No	☐
		Action taken				
		Details of any disturbance of the work site				

NOPSEMA — Report of an accident, dangerous occurrence or environmental incident

Part 1B - Complete for accidents or dangerous occurrences

Accidents and dangerous occurrences information

16.	**Was an emergency response initiated?**		Yes ☐		No ☐	
		Type of response	Manual ☐ Automatic alarm ☐		Muster ☐ Evacuation ☐	
		How effective was the emergency response?				
17.	**Was anyone killed or injured?** *Provide details below*		Yes ☐		No ☐	
	Injured persons (IP)	**Casualty No 1**				
	If different from item 2. Employer name		Employer address			
	Employer phone no.		Employer email			
	IP full name					
	IP date of birth		Sex	M ☐	F ☐	
	IP residential address					
	IP phone no. (Work)		IP phone no. (Home) (Mobile)			
	IP occupation/job title		Contractor or core crew			
	Details of injury					

Based on TOOCS (refer last page) Nature of injury	a. Intracranial injury b. Fractures c. Wounds, lacerations, amputations, internal organ damage	☐ ☐ ☐	d. Burn e. Nerve or spinal cord injury f. Joint, ligament, muscle or tendon injury g. Other _____	☐ ☐ ☐ ☐
Part of body	G1. Head or face G2. Neck G3. Trunk G4. Shoulder or arm	☐ ☐ ☐ ☐	G5. Hip or leg G6. Multiple locations G7. Internal systems G8. Other _____	☐ ☐ ☐ ☐
Mechanism of injury	G0. Falls, stepping, kneeling, sitting on object G1. Hitting object G2. Being hit or trapped	☐ ☐ ☐	G3. Exposure to sound or pressure G4. Muscular stress G5. Heat, cold or radiation G6/7 Chemical, biological substance G8. Other _____	☐ ☐ ☐ ☐ ☐
Agency of injury	1. Machinery or fixed plant 2. Mobile plant or transport 3. Powered equipment 4. Non-power equipment	☐ ☐ ☐ ☐	5/6. Chemicals, materials, substances 7. Environmental agencies 8. Human or animal agencies 9. Other _____	☐ ☐ ☐ ☐

Part 1B - Complete for accidents or dangerous occurrences

Accidents and dangerous occurrences information

	Details of job being undertaken				
	Day and hour of shift	Day *e.g. 5th day of 7 (5 / 7)*		Hour *e.g. 3rd hour of 12 (3 / 12)*	
	NB: If more casualties, please copy/paste this section (19) for each additional casualty and insert here				
18.	**Was there any serious damage?** *Provide details below*		Yes ☐		No ☐
	Details	**Item 1**	**Item 2**	**Item 3**	
	Equipment damaged				
	Extent of damage				
19.	**Will the equipment be shut down?** *Yes or No*				
	If Yes, for how long?				
	NB: If more equipment seriously damaged, please copy/paste this section as required				
20.	**Will the facility be shut down?**	Yes or no *If yes provide details below*			
	Facility shutdown	Date		dd/mm/yyyy	
		Time		24 hour clock	
		Duration		days / hours / minutes	
21.	**Immediate action taken/intended, if any, to prevent recurrence of incident.**	**Action**	**Responsible party**	**Completion date** *Actual or intended*	
22.	**What were the immediate causes of the incident?**				

Attachments

Are you attaching any documents?			Yes or no *If yes provide details below*	
No.	**ID**	**Revision**	**Date**	**Title/description**

Attachments

Are you attaching any documents?			Yes or no *If yes provide details below*	

Insert or delete rows as required

Part 1C – Complete for environmental incidents

Environmental Impacts

23.	**What is the current environment plan for this incident?**	Environment plan				
24.	**Has the incident resulted in an impact to the environment?**	Yes or no *If yes provide details below*				
		Incident details *e.g. estimated area of impact, nature/significance of impact*				
		ENVIRONMENTAL RECEPTORS				
		Open ocean Shoreline Population centre Stakeholders Other sensitivity *e.g. conservation area, nesting beach*	☐ ☐ ☐ ☐ ☐	Macroalgae Coral Reef Benthic invertebrates Seagrass Mangrove	☐ ☐ ☐ ☐ ☐	
		Further details				
	Details	**Environment 1**	**Environment 2**	**Environment 3**		
	Location of receiving environments *Lat/Long*					
	Date & time of impact					
	Action taken to minimise exposure					
	Specify each matter protected under Part 3 of the EPBC Act impacted					
	NB: If more environments were damaged, please copy/paste this section (Item E3) and add extra data					
25.	**Are any environments at risk?** ***Including as a result of spill response measures***	Yes or no *If yes, provide details*				
		Details *e.g. zone of potential impact*				
		AT RISK ENVIRONMENTS				

Part 1C – Complete for environmental incidents

Environmental Impacts

		Open ocean ☐ Shoreline ☐ Population Centre ☐ Stakeholders ☐ Other sensitivity ☐ *e.g. conservation area, nesting beach*			Macroalgae ☐ Coral Reef ☐ Benthic Invertebrates ☐ Seagrass ☐ Mangrove ☐		
	Details	**Environment 1**		**Environment 2**		**Environment 3**	
	Estimated location of 'at-risk' environments						
	Estimated impact date & time						
	Action required to minimise exposure						
	Specify each matter protected under Part 3 of the EPBC Act at risk						
	NB: If more environments at risk of damage, please copy/paste this section (Item E2) and add extra data						
26.	**Was an oil pollution emergency plan activated?**	Yes or no					
		If yes, what action has been implemented / planned?					
		If yes, how effective is/was the spill response?					
27.	**Was an environmental monitoring program initiated?**	Yes or no					
		If yes, what actions have been implemented and/or planned?					
28.	**Did the incident result in the death or injury of any fauna?**	Yes or no (If yes provide details of species in the table below)					
	Injured fauna	**Species 1**		**Species 2**		**Species 3**	
	Species name (common or scientific name)						
	Number of individuals killed or injured	Killed: Injured:		Killed: Injured:		Killed: Injured:	
	NB: If more species were injured or killed, please copy/paste this section (Item E4) and add extra data						
29.	**Actions taken to avoid or mitigate any adverse environmental impacts of the incident.**	**Action**		**Responsible party**		**Completion date** *Actual or intended*	
	NB: If more actions, please add extra rows as required						

Part 1C – Complete for environmental incidents

Environmental Impacts

30.	**Corrective actions taken, or proposed, to stop, control or remedy the incident.**	**Action**	**Responsible party**	**Completion date** *Actual or intended*
	NB: If more actions, please add extra rows as required			
31.	**Actions taken, or proposed, to prevent a similar incident occurring in the future.**	**Action**	**Responsible party**	**Completion date** *Actual or intended*
	NB: If more actions, please add extra rows as required			

Attachments

Are you attaching any documents?			Yes or no *If yes provide details below*	
No.	**ID**	**Revision**	**Date**	**Title/Description**
Insert or delete rows as required				

Part 2 – Information required within 30 days of accident or dangerous occurrence

NOPSEMA acknowledges that in many circumstances an operator may not have completed an investigation within 3 days of an accident or first detection of a dangerous occurrence and agrees that these items must be provided within 30 days unless otherwise agreed, in writing with NOPSEMA. In circumstances where an investigation has been completed within 3 days, and these items are available (supplemented, as required by any attachments) this part should also be completed at that time.

32.	**Has the investigation been completed?**	Yes or no	
	Root cause analysis *What were the root causes?*	Root cause 1	
		Root cause 2	
		Root cause 3	
		Other root causes	
	Full report *Describe investigation in detail, including who conducted the investigation and in accordance with what standard/procedure with reference to attachments listed in the 'attachments table' (following) as applicable*		

33.	**Actions to prevent recurrence of same or similar incident**	**Action**	**Responsible party**	**Completion date** *Actual or intended*
	NB: Add or delete rows as appropriate			

Attachments (Insert/delete rows as required)

Are you attaching any documents?			Yes or no *If yes provide details below*	
No.	**ID**	**Revision**	**Date**	**Title/description**

Instructions and general guidance for use:

1. The use of this form is voluntary and is provided to assist operators and titleholders to comply with their obligations to give notice and provide reports of incidents to NOPSEMA under the applicable legislation.
2. Accidents, dangerous occurrences or environmental incidents can all be reported using this same form.
3. The applicable legislation for incident reporting is:
    a. Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009 [OPGGS(S)R]; and
    b. Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 [OPGGS(E)R], for facilities located in Commonwealth waters; or
    c. for facilities located in designated coastal waters, the relevant State or Territory Act and associated Regulations where there is a current conferral of powers to NOPSEMA.
4. In the context of this form an incident is a reportable incident as defined under:
    a. OPGGSA, Schedule 3, Clause 82.
    b. OPGGS(E)R, regulation 4.
5. This form should be used in conjunction with NOPSEMA Guidance Notes available on the NOPSEMA website:
    a. N-03000-GN0099 Notification and Reporting of Accidents and Dangerous Occurrences
    b. N-03000-GN0926 Notification and Reporting of Environmental Incidents
6. Part 1 requires completion for all incidents; then ALSO complete part 2 if the incident is an accident or dangerous occurrence.
7. NOPSEMA considers that a full report will contain copies of documentary material referenced and/or relied on in the course of completing this form, which may include (but not be limited to) as appropriate: witness statements, management system documents, drawings, diagrams and photographs, third party reports (audit, inspection, material analysis etc.), internal records and correspondence.
8. This form is intended to be completed electronically using Microsoft Word by completing the unshaded cells which will expand as required to accept the information required and the check boxes where relevant (NB: check boxes may appear shaded and have reduced functionality in MS Word versions prior to 2010).
9. The completed version of this form (and any attachments, where applicable) should be emailed to: submissions@nopsema.gov.au or submitted via secure file transfer at: https://securefile.nopsema.gov.au/filedrop/submissions as soon as practicable, but in any case within three days of the incident.

References

NOPSEMA website: www.nopsema.gov.au

TOOCS – Type of Occurrence Classification System.

The *Type of Occurrence Classifications System, Version 3.0* (TOOCS3.0) was developed to improve the quality and consistency of data. This system aligns with the International Classification of Diseases –Australian Modification (ICD10-AM).

http://www.safeworkaustralia.gov.au/sites/SWA/AboutSafeWorkAustralia/WhatWeDo/Publications/Documents/207/TypeOfOccurrenceClassificationSystem(TOOCS)3rdEditionRevision1.pdf

OPGGS(S)R. Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009. Select Legislative Instrument 2009 No. 382 as amended and made under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*.Commonwealth of Australia.

OPGGS(E)R. Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009. Statutory Rules 1999 No. 228 as amended and made under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006*. Commonwealth of Australia.

Privacy Notice

NOPSEMA collects your personal information for the purpose of investigating accidents, dangerous occurrences and environmental incidents under the Offshore Petroleum and Greenhouse Gas Storage Act 2006.

NOPSEMA will not use or disclose your personal information for any other purpose without your consent, unless it is required or authorised by law, or relates to NOPSEMA's enforcement activities. Your personal information may be disclosed to the following organisations, entities or individuals:

- individuals who make a request under the *Freedom of Information Act 1982*
- the Australian National Audit Office and other privately-appointed auditors
- other law enforcement bodies (for example, the police or the Coroner)
- NOPSEMA's legal advisors.

NOPSEMA may occasionally be required to disclose information to overseas recipients in order to discharge its functions or exercise its powers, or to perform its necessary business activities.

Information about how you can access, or seek correction to, your personal information is contained in NOPSEMA's APP Privacy Policy at www.nopsema.gov.au/privacy. If you have an enquiry or a complaint about your privacy, please contact NOPSEMA's Privacy Contact Officer on (08) 6188 8700 or by email at: privacy@nopsema.gov.au.

APPENDIX B

CONTROL AGENCY TRANSFER CHECKLIST

Appendix 1 – Incident Control Transfer Checklist (State Waters)

☐ Confirm date and time of formal transfer of Incident Control in State Waters.
☐ Confirm respective Incident Controller lines of communication arrangements (including exchange of Liaison Officers in IMT).
☐ Confirm respective On-Scene Commander lines of communication arrangements (including exchange of Liaison Officers in FOB).
☐ Confirm the location of any PT FOB and Staging Areas.
☐ Confirm the details of all current response operations being conducted by PT in State Waters.
☐ Confirm the composition and status of all response resources, both personnel and equipment, currently being controlled by the PT that relate to response operations in State Waters.
☐ Confirm the composition and status of all response resources, both personnel and equipment, that has been mobilised by the PT and in transit to the spill site that will contribute to future response operations in State Waters.
☐ Confirm the composition and status of all response resources, both personnel and equipment that is in the process of being mobilised by the PT to contribute to future response operations in State Waters.
☐ Confirm current level of incident and the predicted level in the future.
☐ Confirm existence and adherence to an OPEP/OSCP and secure a copy for the relevant OPEP/OSCP plan.
☐ Secure a copy of the current Situation Report and incident prognosis.
☐ Secure a copy of the Product Material Safety Data Sheet (MSDS).
☐ Notification of significant Safety Risks.
☐ Secure a copy of the latest spill trajectory modelling.

☐ Secure a copy of the latest actual spill monitoring and surveillance information.
☐ Secure a copy of the current IAP as it relates to State Waters response operations, specifically the details of all immediate and future response operations planned by the PT in State waters.
Secure a copy of the most recent media statements.
Secure a summary of all community / stakeholder engagement activities undertaken to date and those planned in the immediate future that pertain to state waters impact.
Confirm deployment of initial PT personnel to DoT IMT and DoT FOB.
Reconfirm date and time of formal transfer of Incident Control in State Waters
DoT Incident Controller _____ Date_____ Time_____

Source: Appendix 1 of the WA Department of Transport Offshore Petroleum Industry Guidance Note, Marine Oil Pollution: Response and Consultation Arrangements (September 2018). Available online at: <https://www.transport.wa.gov.au/mediaFiles/marine/MAC_P_Westplan_MOP_OffshorePetroleumIndGuidance.pdf>

APPENDIX C

INCIDENT ACTION PLAN TEMPLATE

INCIDENT ACTION PLAN TEMPLATE

Phase/Task		Action	Responsibility	Check
Briefing	1	Brief key IMT Officers	IMT Leader/ Planning Officer	
		a) Current situation:		
		• Spill type • Spill location • Spill size • Containment		
		• Statutory/Combat Agencies		
		• Tier/resources mobilised		
		b) Predicted situation:		
		• Trajectory		
		• Resources at risk/effects		
	2	State aim (or policy) of response.		
IAP Sub-Plans Development	3	Develop and rank response objectives, based on protection priorities.	Planning Officer/ Env Advisor	
	4	Develop strategies for each objective.	Planning Officer	
	5	Develop tactics for each strategy.	Planning Officer	
	6	Identify/obtain any permits required for strategies. e.g. dispersant use.	IMT Leader/ Env Advisor	
	7	Prepare/review sub-plans		
		a) Health and safety sub-plan	Safety Officer	
		b) Wildlife sub-plan	Env Advisor	
		c) List of equipment, personnel and service requirements for the planned response	Logistics Officer	
		d) Communication sub-plan	Planning Officer	
		e) Media sub-plan	Safety Officer	
Logistics	8	Determine need for and location of any staging areas.	Logistics Officer	

Phase/Task		Action	Responsibility	Check
IAP Preparation	9	Document aim, objectives and strategies and prepare Draft Incident Action Plan.	IMT Leader/ Planning Officer	
	10	Attach sub-plans to Incident Action Plan (IAP).	Planning Officer	
	11	Prepare revised list of resource needs for submission to Logistics officer.	All IMT Officers	
Approval	12	Approve IAP.	IMT Leader	

* Process to be repeated throughout the response as scenarios, objectives, strategies or tactics change.

APPENDIX D

NET ENVIRONMENTAL BENEFIT ASSESSMENT

Procedure	Net Benefit Analysis (NEBA)
Responsibility	The IMT Planning Officer will be responsible for the completion of the NEBA, with the assistance of an Environmental Advisor. The Environmental Advisor is to have technical competence to undertake the NEBA assessment and have a thorough understanding of the potential areas to be impacted and sensitivities that exist at these places. An understanding of the potential impacts of different spill response options is also required. The Environmental Advisor will require support from the Safety, Logistics and Operations Officers in consultation with the IMT Leader. The IMT Planning Officer may request advice from technical experts in completing the NEBA.
Timing	From the occurrence of the spill, the NEBA will be developed to supplement the Incident Action Plan (IAP) being developed by the IMT Leader. The initial NEBA will be completed within 1 hour of receiving sufficient data input (spill modelling, current and forecasted weather conditions, volume of spill, the presence of sensitive receptors). Thereafter, the NEBA will be reviewed on a daily basis to inform the IAP. The reviews are flexible in the fact they can be more frequent, based on information from operational monitoring, resource availability, changes in weather and safety considerations. A review can be requested by the IMT leader at any stage.

Task	Action	Status
1 a)	Each NEBA undertaken is to have a cover page completed. The cover page is to be assigned a unique reference code which is of a standard format. For example: *NEBA X (NEBA number conducted)_ddmmyyyy (date)_00:00 (time)_* *Site Abbreviation Initials of Assessor* *e.g. NEBA5_01012013_15:15_Ashmore_JW* Note the site abbreviation will become prevalent once the locations to be impacted are determined (i.e. Ashmore, Cartier, Hibernia, etc.).	

Task	Action	Status
b)	The details in the cover sheet are to be completed to the largest extent possible based on the information available. Details to be completed include: • Level of the spill • season • water depth • details of people completing the form • date of form • weather conditions • resources available • existing response strategies • spill modelling forecast: – areas predicted to be impacted – time to contact – volumes. • operational monitoring inputs.	
2a)	Populate the NEBA table with response strategies under consideration, sites and resources of interest. Part A is pre-prepared reference, the positive and negative environmental impacts as well as considerations for various response options. Review and update this as necessary based on the spill characteristics.	
b)	From the cover page add in the site names of potentially affected sites to the top row of the NEBA table (Part B).	
c)	List the key sensitivities for the potentially affected sites identified through modelling (refer to Section 5.7 in the OPEP and the relevant Environment Plan) and additional information supplied by APASA (from OSRA) or other local environmental experts.	
d)	The initial NEBA will focus on primary response strategies (containment and recovery) which target reducing the volume of oil on the water surface and minimising the risk of shoreline contact. As the time to contact reduces, and potential volumes that may contact the sites become clear, secondary response strategies such as protection and deflection and shoreline clean-ups will become more prevalent and should be incorporated into the NEBA. It is important to include detail in the initial NEBA with an outlook for the future 48 hours so that the response strategies can be refined over the coming days. This will assist the Operational Officer in acquiring resources.	
e)	Review the peak migratory seasons for sensitivities such as: • Migratory Birds – peak migratory periods occurring during October to November.	

Task	Action	Status
	• Marine Reptiles (Turtles) – turtle nesting occurs between the months of December to January; Hatchlings can be expected between February and March. If the spill will affect key seasonal sensitivities, note this in each of the response strategy boxes.	
f)	For each response strategy review the positive/negatives and considerations in Section A, update as necessary and apply them to the sites and sensitivities listed in Section B to assess the relative benefits of each response under consideration.	
g)	If multiple sites are identified to be impacted and prioritisation is required. It is important to list the following details against the relevant response strategy for each location: • the time to contact • the volume predicted to impact • the length of shoreline to be impacted • state of weathering at impact • hydrocarbon phase at impact • tidal phases (spring tides etc.) • review migratory/nesting seasons for key sensitivities • review operational monitoring data on number and diversity of fauna currently present that could be impacted.	
h)	If a single site is to be impacted, detailed operational monitoring data will be used to identify where specific response strategies could be implemented (protection and deflection, shoreline protection) given the conditions at the time (sea state, currents, access). A site specific NEBA can be undertaken using as real time information to identify the most beneficial response strategies for each location within the site.	
3a)	Once viable response options have been identified, this information can be incorporated into spill modelling to assess the outcome of the response and identify preferred locations for deploying the response.	
4a)	The Planning Officer and Environmental Advisor are to supply the IMT Leader with: 1. the completed NEBA 2. a list of the recommended response options for each site of interest 3. modelling results for response options (where applicable).	
b)	Ensure the NEBA and supporting information is saved in a dedicated location that is readily accessible to the IMT.	
c)	Prepare the template for the following NEBA, based on the existing NEBA so that it is ready to be reviewed and refined if requested at short notice by the IMT leader.	

NEBA Cover Sheet

Net Environmental Benefit Analysis Cover Sheet			
Document Number:		Location:	
Previous NEBA Document Number:			
Date:		**People Involved:**	
Time:			
Time (days) Since Spill:			
Prevailing Weather Conditions:	**Temperature: (range)**	**Wind: (Speed/direction)**	**Swell: (m)**
Spill Modelling Data:			
Relevant Operational Monitoring Data:			
Predicted Locations To Be Impacted:	**Time to shoreline contact**	**Hydrocarbon phase at impact**	**Volumes predicted ashore at each location**
Resources Available:	**Currently**	**<24 hours**	**>24 hours**

Section A - Information to Inform NEBA				Section B – Conceptual NEBA Receptor/Sensitivity		
				Location/Receptor	Location/Receptor	Location/Receptor
Response Strategy	**Negative Impacts**	**Positive Impacts**	**Consideration**	**Sensitivities at Receptor**	**Sensitivities at Receptor**	**Sensitivities at Receptor**
Natural recovery (surveillance and monitoring)	• Acute and chronic toxicity effects of surface oil on organisms • Physical effects e.g. smothering from surface oil • Potential extended exposure of surface water and inter-tidal resources • Survey vessels pose chance of disturbance/collision with marine fauna	• No additional impacts from clean-up activities • Identify emerging risks to sensitive areas • Limited risk to sub-tidal resources • No waste generation	• EPBC Regulations 2000, Part 8 Division 8.1 interactions with cetaceans • For most spills aerial surveillance will be required for effective monitoring of spill movement and extent • Requires trained observers			
Containment and Recovery	• Response vessel movement increase chance of disturbance/collision with marine fauna • Generation of oily waste requiring disposal.	• Reduces volume of surface slick • Reduced risk of oiling of wildlife and shorelines	• Dependent on weather • Containment and recovery operations require surface slicks of			

		• Less waste generated than during shoreline clean-up	thresholds >10 g/m² • Requires trained responders • Booms in shallow water monitored to free trapped wildlife and prevent damage to shallow reef structures • EPBC Regulations 2000, Part 8 Division 8.1 interactions with cetaceans			
Protection and deflection	• Increased vessel movement increase chance of disturbance/collision with marine fauna • Potential damage/disturbance to intertidal and benthic habitats • Disturbance of shoreline fauna, e.g. nesting birds or turtles	• Can reduce volume of surface slick • Reduce the risk of oiling of wildlife and shorelines • Less waste generated than during shoreline clean-up	• Requires trained responders • Booms in shallow water monitored to free trapped wildlife and prevent damage to shallow reef structures or booms • Flat bottom vessels, catamarans or			

			vessels with tenders may be required to access shorelines to deploy booms and other protective equipment. • Beach profile must be restored after installing barriers/berms where practicable • EPBC Regulations 2000, Part 8 Division 8.1 interactions with cetaceans			
Shoreline clean up	• Potential intertidal and shoreline disturbance, including fauna, nests etc, from landing vessels and personnel. • Large amounts of waste generated • Changes to beach profiles	• Removes stranded hydrocarbons from shorelines – reduces oil burial and long-term contamination • Reduces impacts	• Remote area work requiring extensive logistic support including waste removal and transport • Access permits required for some areas. • Induction and training of			

	• Depending on environment may not speed natural recovery	associated with smothering effects • Reduces risk of wildlife contacting oil • Reduces potential for remobilisation of stranded oil to other sensitive receptors • May speed shoreline recovery	onshore team accessing to uninhabited islands. Induction to include that spill response teams should avoid disruption of environment and take practical tactical precautions to avoid contact with flora and fauna • IMT to: Coordinate basic training to clean-up contractors; Oversee the clean-up process to ensure appropriate procedures are used to minimise the impact on the environment; Provide advice on practical precautions to			

			minimise contact with flora and fauna; and Assist with the NEBA process when selecting spill response strategies and to evaluate the impact of strategies			
Oiled wildlife response	• Increased vessel movement increase chance of disturbance/collision with marine fauna • Disturbance to shorelines and intertidal areas during capture or marine fauna • Approaching marine fauna could drive individuals towards/into spill • Pre-emptive capture and relocation of turtle hatchlings may result in reduced	• Prevent or reduce oiling of wildlife • May assist recovery of oiled wildlife	• Wildlife at risk will depend on seasonal factors as well as the location of the spill • Wildlife washing facility requires large area and large supply of clean water • Trained responders required for wildlife capture and care • Consider wildlife threatened or impacted by			

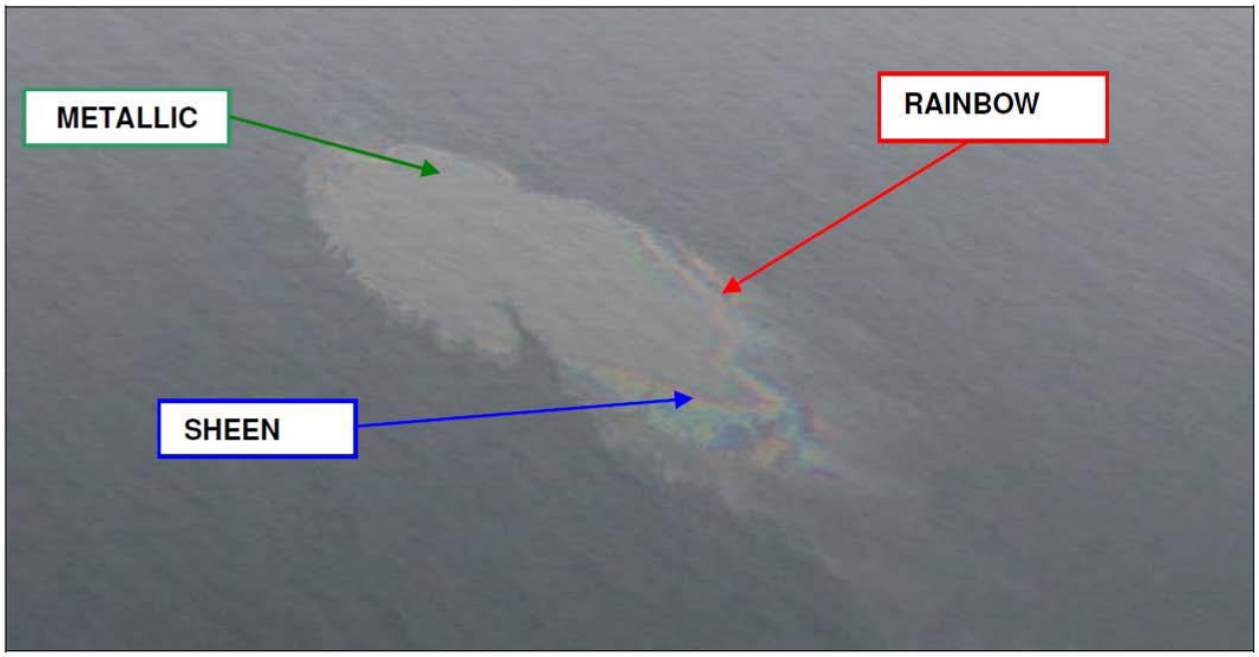
	survival (predation and/or exposure) • Large volumes of oily water and waste generated by bird washing		other operational activities associated with the response (e.g. containment and clean up, aviation etc.)			

APPENDIX E

BONN APPEARANCE CODES

Bonn Appearance Codes

Code	Description - Appearance	Layer Thickness Interval (µm)	Litres per km^2
1	Sheen (silvery/grey)	0.04 to 0.30	40 – 300
2	Rainbow	0.30 to 5.0	300 – 5000
3	Metallic	5.0 to 50	5000 – 50,000
4	Discontinuous True Oil Colour	50 to 200	50,000 – 200,000
5	Continuous True Oil Colour	More than 200	More than 200,000



Oil Behaviour

The behaviour of oil at sea, and its subsequent fates and effects is influenced by a number of factors and these are outlined below.

Significance of Oil Character

The character of oil determines its behaviour at sea, and this in turn influences a number of aspects of spill management. The most important considerations are:

- Spreading rate. Oils like diesel, light crude oils and condensates will spread rapidly. This makes containment with booms difficult due to the time taken to deploy equipment and the large area covered by these oils in a short time. High spreading rates also results in a rapid evaporation of the oils and facilitate a rapid physical breakup of the slick due to the thin layer that is achieved through spreading. Breakup of some of these oils is so rapid that they are classed as "non persistent" (most condensates).
- Tendency to emulsify. Some oils, such as heavy fuel oils, tend to pick up water and form thick, viscous emulsions. This depends in apart on an oil's asphaltene content. These are persistent and difficult to recover from the sea using skimmers. Some light high wax oils will also form emulsions if high mixing energies are applied. This is one reason why it is not recommended to break up surface slicks with vessel's propeller action.
- Pour point. This is the temperature above which oil is liquid. If an oil has a pour point close to or below sea and air temperatures it may not spread or be amenable to some response strategies. This reflects an oil's wax content and asphaltene content.
- The resulting persistence of an oil is an important consideration in mounting a response, particularly in isolated areas. Non-persistent oils may not need cleanup, particularly if they are spilled a long way from sensitive resources or coastlines

The chemical and physical properties of the various oils has been assessed and the relevant data used as input into the oil fates and trajectory modelling.

Behaviour of Oils at Sea

Four oils could be spilled from commissioning and operations activities:

- Diesel fuel.

  These vary greatly in their constituents and consequent behaviour although all spread rapidly. Heavier diesels and tropical diesels may leave a significant residue after evaporative losses although these will tend to break up in the open sea.
- Lubricating oil.

  These are carried and transported in small quantities only.
- Crude oil.

  Montara crude is a medium (Group III) high pour point waxy crude (API Gravity of approximately 34.8°) with a wax content of 11.3%. A light crude oil is one with an API Gravity of between 33° and 45.5°. **Caution**: this oil poses an extreme fire hazard.
- Aviation fuel.

  Either avgas or jet fuels. These are light rapidly spreading oils.

Oil spilled at sea undergoes a number of physical and chemical changes, although the rate of change depends upon such factors as:

- The oil's initial physical and chemical characteristics
- Prevailing weather and sea conditions. Weathering is generally accelerated by:
  - High winds
  - High sea states which act to break surface oils up. However, this also promotes emulsification in some oils which reduces evaporative loss and spreading hence retarding break-up (see below)
- Whether the oil remains at sea or is washed ashore

APPENDIX F

ESTIMATING OIL SLICKS AT SEA

GUIDE TO ESTIMATING OIL SLICKS AT SEA

Flight Plans

The first over flight of a large spill should be at 300 to 700 metres, to locate and determine its general orientation and dimensions.

Determining the colour of the oil is best made at lower altitudes. When searching for an oil slick, aircraft should undertake a "parallel track search" of the area in which the slick is considered to be located.

The longer search legs should be oriented with the direction of drift. This will maximise search effectiveness (better chance of slick detection).

Estimating Slick Volumes at Sea

Estimates of the volume of a slick can be made on the basis of its appearance at sea, and the area covered.

A trained observer must be present on surveillance aircraft to identify oil on the water or shoreline and to accurately report location to the Aerial Coordinator or Operations Officer. Photographs should be taken to aid later assessments.

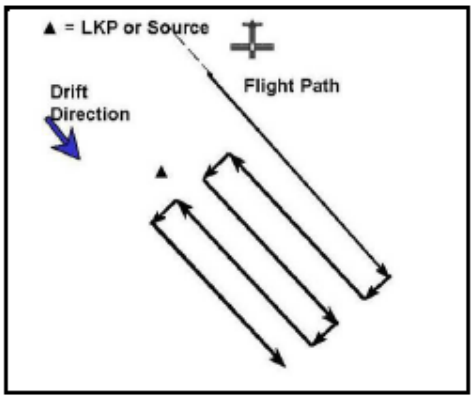


Figure I1: Parallel track search pattern

Suitably experienced observers can be identified and obtained through AMSA or AMOSC. In the long term PTTEP AA aims to train some aerial observers.

Table I1: Guidelines for estimation of slick volume

Appearance of Oil Slick	Volume of Oil per Km^2		
	m^3	Tonnes	Barrels
Barely Visible except under some light conditions	0.05	0.04	0.31
Silvery Sheen	0.10	0.09	0.43
Rainbow – Iridescence: Bright bands of colour	0.30	0.24	1.89
Dull Colours. Colours still visible but are dull	1.00	0.85	4.29
Dark Black or Brown (or very dark colour)	2.00	1.70	12.40

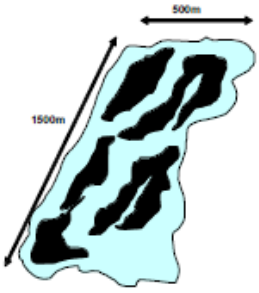
NOTES: Source Bonn Agreement.

The surface area of the slick can be estimated by:

1. Flying the length and breadth of the slick and equating the time taken to fly over the slick and the aircraft speed.
2. Calculating the slick area (i.e. length x breadth), and

3. Multiplying the area by the percentage of the slick that is oil (i.e. not clean water).
4. The areas covered by the various oil thicknesses should be calculated.
5. Calculate oil volumes using equation below.

Example of calculating slick volumes at sea



E.g: Area =1.5km x 0.5km = 0.75 sq km.
i) 40% of slick is black oil. So area of black oil is 40% of 0.75 sq km = 0.3 sq km.
ii) Using Table 6.1, volume in black oil is approximately: 2 x 0.3 = 0.6 cubic metres.
iii) 60% of slick is sheen. So area of sheen is 60% of 0.75 sq. km = 0.45 sq km.
iv) Using Table 9.1, volume of oil in the sheen is approximately: 0.05 x 0.45 = 0.0225 cubic metres.

Note that the sheen contains very little oil and estimated volume, in this example, is about 0.6 cubic metres of oil or oily emulsion.

APPENDIX G

BLACKTIP OPERATIONAL AND SCIENTIFIC MONTIORING PROGRAM