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.

PR-OP	16	15/04/24	Final Issue	ADV	JCO	GPA		
PR-OP	15	29/11/23	Final Issue	ADV	JCO	GPA		
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				

Validity Status / Revision index	Rev. Number	Date	Description	Prepared by	Checked by	Approved by	Contractor Approval	Company Approval

eni australia	Project name Blacktip Operations	Company identification 000036_DV_PR.HSE.0388.000 Job N. ___
		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 / 221
Document Title BLACKTIP OPERATIONS OIL POLLUTION EMERGENCY PLAN		Supersedes N..... Superseded by N..... Plant Area / Plant Unit

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REVISION HISTORY

Rev.	Date	Nr. of sheets	Description
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14	30/09/21	285	Final Issue Out of date service provider contract numbers removed.
15	29/12/23	285	Final Issue Update in respect to NOPSEMA RFFWI for drilling.
16	29/12/23	285	Final Issue Update in respect to NOPSEMA RFFWI for drilling.

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TABLES

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FIGURES

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APPENDICES

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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)
AMP	c
ANZECC	Australian and New Zealand Environment Conservation Council
API	American Petroleum Institute
AusSAR	Australian Search and Rescue
Bbl	Barrels
BAOAC	Bonn Agreement Oil Appearance Code
CEP	Condensate Export Pipeline
CGR	Condensate to Gas Ratio
CMT	Crisis Management Team
DBCA	Department of Biodiversity, Conservation and Attractions (Western Australia)
DCCEEW	Department of Climate Change, Energy, the Environment and Water
DEPWS	Department of Environment, Parks and Water Security (Northern Territory)
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)

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Acronym	Definition
DTSC	Department of Tourism, Sport and Culture (Northern Territory)
DWER	Department of Water and Environmental Regulations (Western Australia)
EAL	Eni Australia Limited
Eni HQ	Eni Spa Headquarters, Milan
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
IC	Incident Controller
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
LOWC	Loss of well control
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

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Acronym	Definition
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
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 2023
OSA	Offshore Services Australia
OSC	On Scene Commander
OSRA	Oil Spill Response Atlas
OSRL	Oil Spill Response Limited
OSM	Oil Spill Modelling
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
RCC	Rescue Coordination Centre
RIDDS	Rapid Installation Dispersant Delivery System
ROVs	Remotely Operated Vehicles

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Acronym	Definition
SAR	Synthetic Aperture Radar
SARO	Senior Search and Rescue Officer-Aviation
SC	Safety Case
SEQ	Safety, Environment, Quality
SFRT	Subsea First Response Toolkit
SG	Specific gravity
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
SCRP	Source Control Response Plan
TEMC	Territory Emergency Management Council
TEP	Territory Emergency Plan
VOCs	Volatile Organic Compounds
WA	Western Australia
WAOWRP	Western Australia Oiled Wildlife Response Plan
WC	Wildlife Coordinator
WHP	Wellhead Platform
WMC	Waste Management Coordinator
WWC	Wild Well Control
WCSS	Worst Credible Spill Scenario
YGP	Yelcherr Gas Plant
ZPI	Zone of Potential Impact

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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?

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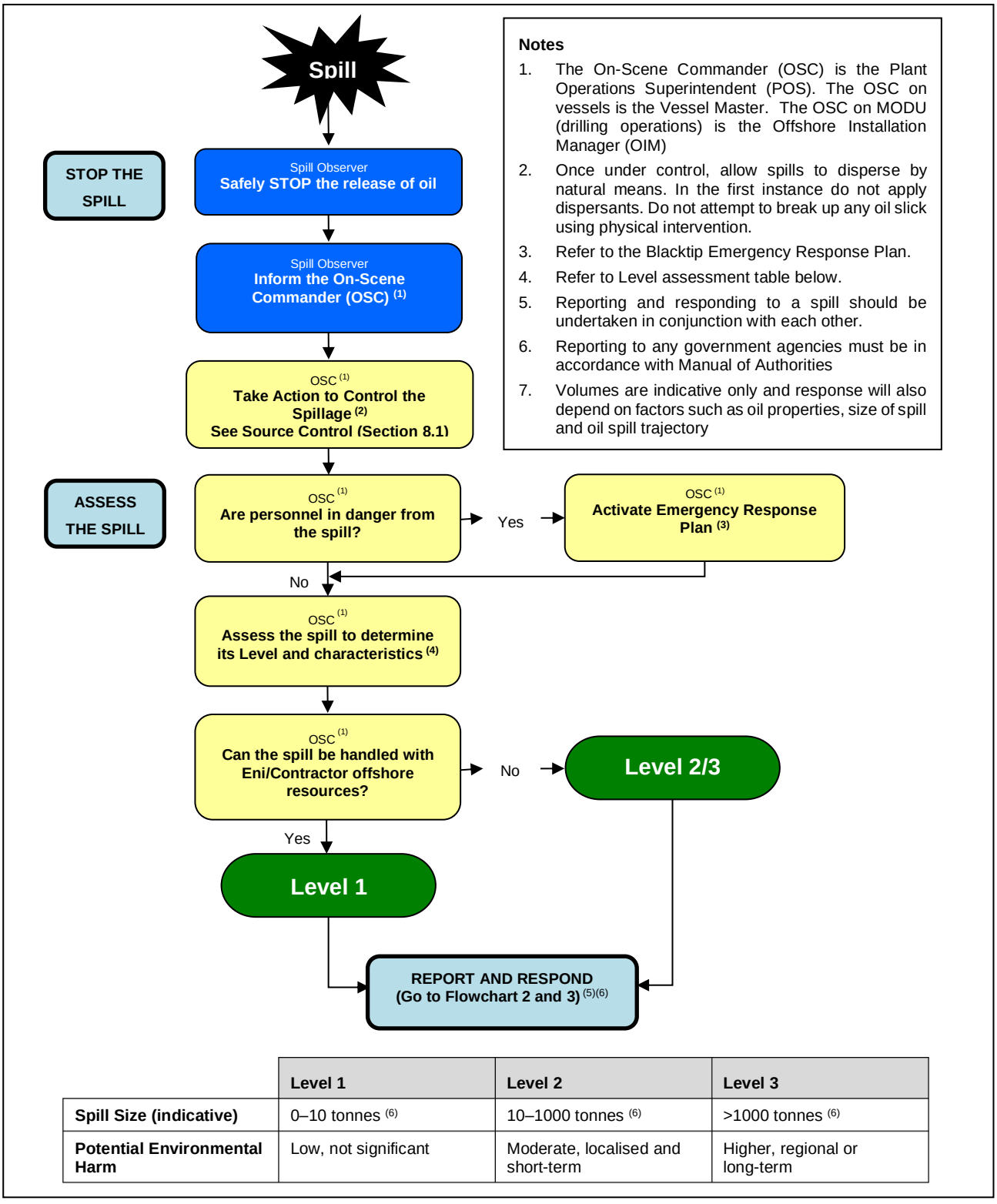
FLOWCHART 1 – STOP AND ASSESS THE SPILL



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

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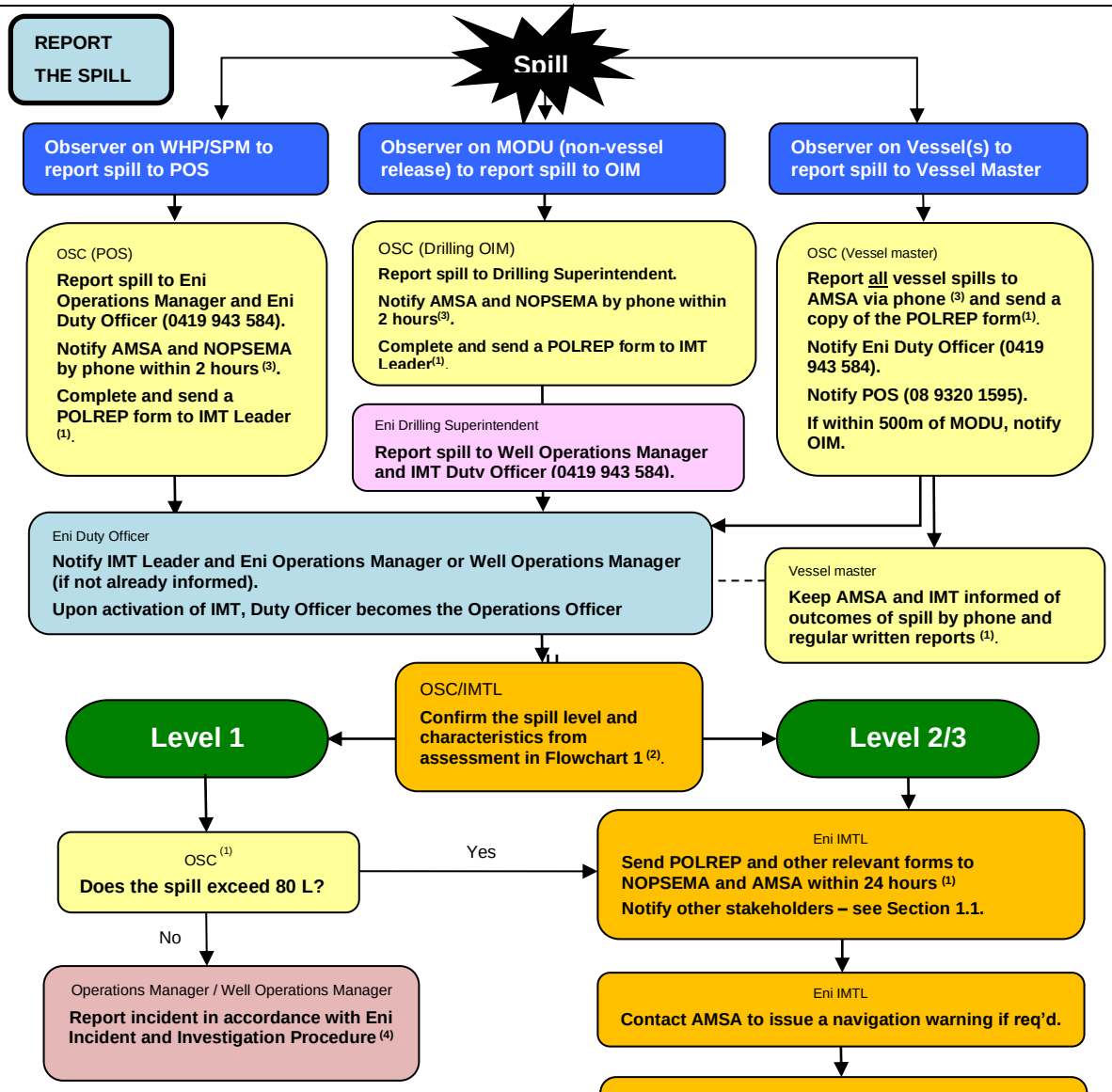
FLOWCHART 2 – REPORT THE SPILL



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.

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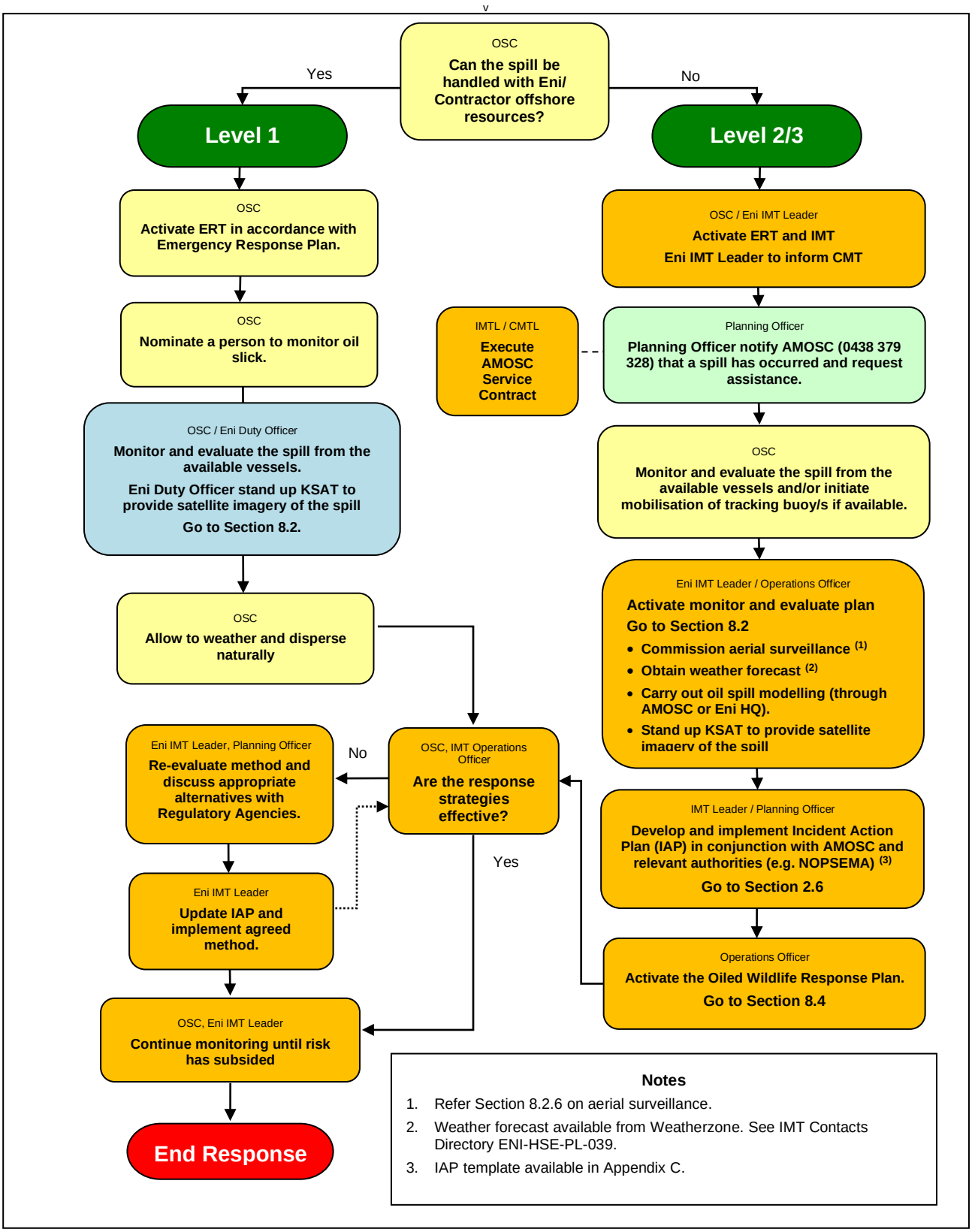
FLOWCHART 3 – RESPONSE (MONITOR AND COMBAT)



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IMMEDIATE NOTIFICATIONS			
Action	**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 • Well Operations Manager	Duty Officer notifies • IMTL • Operations Manager and/or • Well Operations 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, Well Operations Manager or POS report spills over 80 L in Cth waters via phone to NOPSEMA within 2 hours. 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.		

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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 DEPWS (spills in NT waters) • Eni IMTL/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.	Refer Form ENI-HSE-FR-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 80L).	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.

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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 Blacktip operations or the Offshore Installation Manager (OIM) for Blacktip drilling activities. On a vessel, the observer must notify the Vessel Master, who in turn will notify the POS if within the 500m 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); and
- 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 1300 674 472. The Operations Manager (Level 1 spill) or IMT Leader (IMTL) (Level 2/3 spills) 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 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.

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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 incident'.
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.

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NOTIFICATIONS TO BE COMPLETED BY ENI'S INCIDENT MANAGEMENT TEAM			
Notification Timing	**Authority/ Company**	**Contact Number**	**Instruction**
As soon as possible if spill affects NT Territory waters (within 24 hours of becoming aware of the incident)	Notify the following external parties of an oil spill in NT waters: • Darwin Port for spills inside Darwin Port limits • NT DoT – Marine Safety Branch for spills inside Territory waters (but outside Darwin Port limits) • NT EPA for spills inside Territory waters and/or Darwin Port limits • The Regional Harbour Masters, Marine Safety NT, DIPL	https://ntepa.nt.gov.au/waste-pollution/hotline Refer to contacts IMT Emergency Contact Directory ENI-HSE-PL-039	Verbally notify the NT EPA as soon as possible after the incident occurs. Follow up with a written report to pollution@nt.gov.au NT EPA Pollution Reporting Online Form
Within 1 day	National Offshore Petroleum Titles Administrator (NOPTA)	(08) 6424 5302	Provide a verbal or written incident summary.

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NOTIFICATIONS TO BE COMPLETED BY ENI'S INCIDENT MANAGEMENT TEAM			
Notification Timing	**Authority/ Company**	**Contact Number**	**Instruction**
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 Climate Change, Energy, the Environment and Water (DCCEEW)	+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; and • a cetacean.
As soon as practicable, in the event of a hydrocarbon spill that may result in imminent or actual impacts on all departmental interests, which includes wildlife and reserves managed under the *Conservation and Land Management Act 1984* within WA	DBCA (inc. Kimberley Regional office)	(08) 9219 9108 (DBCA State Duty Officer) (08) 9195 5500 (Kimberley Regional office)	Provide a verbal incident summary. The region may also be contacted via email, at broome@dbca.wa.gov.au.

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NOTIFICATIONS TO BE COMPLETED BY ENI'S INCIDENT MANAGEMENT TEAM			
Notification Timing	**Authority/ Company**	**Contact Number**	**Instruction**
Incidences which occur within an Australian Marine Park (AMP) or are likely to impact on an 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 an AMP or are likely to impact on an AMP as soon as possible.
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.

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NOTIFICATIONS TO BE COMPLETED BY ENI'S INCIDENT MANAGEMENT TEAM			
Notification Timing	**Authority/ Company**	**Contact Number**	**Instruction**
Daily, or as situation changes significantly	Notify the following external parties of an oil spill in NT waters: • Darwin Port for spills inside Darwin Port limits • NT DoT – Marine Safety Branch for spills inside Territory waters (but outside Darwin Port limits) • NT EPA for spills inside Territory waters and/or Darwin Port limits • The Regional Harbour Masters, Marine Safety NT, DIPL	Phone call and email Refer to contacts IMT Emergency Contact Directory ENI-HSE-PL-039	Provide SITREP.

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NOTIFICATIONS TO BE COMPLETED BY ENI'S INCIDENT MANAGEMENT TEAM			
Notification Timing	**Authority/ Company**	**Contact Number**	**Instruction**
Should impact be expected to community members including: • fishing industry; • tourism industry; • local community; and • 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.
In the event of a spill being likely to contact Forsyth Creek	Seafarms Group	Refer to contacts IMT Emergency Contact Directory ENI-HSE-PL-039	Contact Seafarms Group in the event a spill is predicted to contact Forsyth Creek.
Prior to entering Traditional Owner-owned land (including intertidal waters and shorelines)	Relevant Land Council Thamarrurr Development Corporation (in first instance for the Thamarrurr region)	Refer to contacts IMT Emergency Contact Directory ENI-HSE-PL-039	Seek written permission prior to access. *Note: NT TEMC would also manage all aspects of acquisition and compliance with AAPA certificates, at the time of the spill event*

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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 IMTL 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 10m^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 1000m^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 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.

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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 (0–70bbl or 0–11m^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 (71–7000bbl or 11m^3–1113m^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 (>7000bbl or >1113m^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.

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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

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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 response 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 2.5** 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. *Note: For NT terrestrial waters NT DEPWS is Control Agency. If spill affects both WA and NT waters cross-jurisdictional arrangements apply*		N/A

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1.3 Mobilisation of Response Strategies

The following response strategies have been identified in the pre-operational Net Environmental Benefit Analysis (NEBA) (Section 7). 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).

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) 000036_DV_PR.HSE.0860.000 (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)
			Deployment of satellite tracking buoy (drilling/intervention)	OSC	
			Implement OMP2 – sample hydrocarbon for chemical and physical properties.	IMTL	
			Source real time oil spill modelling via AMOSC.	Planning Officer	
			Stand up KSAT to provide satellite imagery of the spill.	Ops Officer	
			Depending on results of modelling and monitoring, consider OMP3.	IMTL	

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Strategy		Hydrocarbon type: Condensate	Hydrocarbon type: MDO/MGO	First response actions	Action by	Resource
				Mobilise resources for marine megafauna assessment.		
Source control	Vessel	Yes	Yes	Implement SOPEP.	Vessel Master / Drilling OIM	Vessel SOPEP
	Facility and Drilling	Yes		Mobilise resources and personnel for source control.	Ops Officer	Section 8.1 ENI-WOP-PL-001
Shoreline clean up		Yes	Yes	Equipment from AMOSC, OSRL, WA DOT / NT DEPWS 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).	Ops Officer	Section 8.5 ENI-HSE-ST-059
				Develop Waste Management Sub-Plan in line with Eni Waste Management Standard.	Planning Officer	
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)
In-situ burning		No	No	N/A	N/A	N/A

1.3.1 Operational and Scientific Monitoring

Details on Eni's Operational and Scientific Monitoring capability and mobilization is included in the OSMP (000036_DV_PR.HSE.0860.000).

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2. OIL POLLUTION EMERGENCY PLAN OVERVIEW

This OPEP has been developed specifically to respond to emergency oil spills as described and defined in the associated Blacktip Environment Plans (EPs):

1. Blacktip Operations EP (000036_DV_PR.HSE.0677.000); and
2. Blacktip Offshore Drilling EP (000036_DV_PR.HSE.0887.000).

2.1 Scope

The OPEP is an operational document and contains all information necessary for Eni to carry out a response to an emergency oil spill. This OPEP applies to all activities relating to Blacktip offshore operations, including drilling activities. 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 500m 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).

The coverage of this OPEP is based on the associated spill modelling and encompasses the Environment that May Be Affected (EMBA), Zone of Potential (ZPI) (moderate exposure area) presented in the Blacktip EPs.

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2.2 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.

2.3 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 (Cth waters)	National Plan for Maritime Environmental Emergencies (NatPlan)	AMSA	Sets out oil spill preparedness and response procedures under the NatPlan.
NT	NT OSCP	NT DEPWS	Sets out NT arrangements for marine oil spill preparedness and response.
	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.

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2.4 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 (SCRP)	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.

2.5 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.

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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), 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 IMTL, 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 IMTL.	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 IMTL.	
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.	

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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 IMTL 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

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3. RESOURCES AND MOBILISATION SUMMARY

3.1 AMOSC, OSRL and AMSA Resources Available

Table 3.1: Resource and mobilisation overview

Resource	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 stockpile 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.

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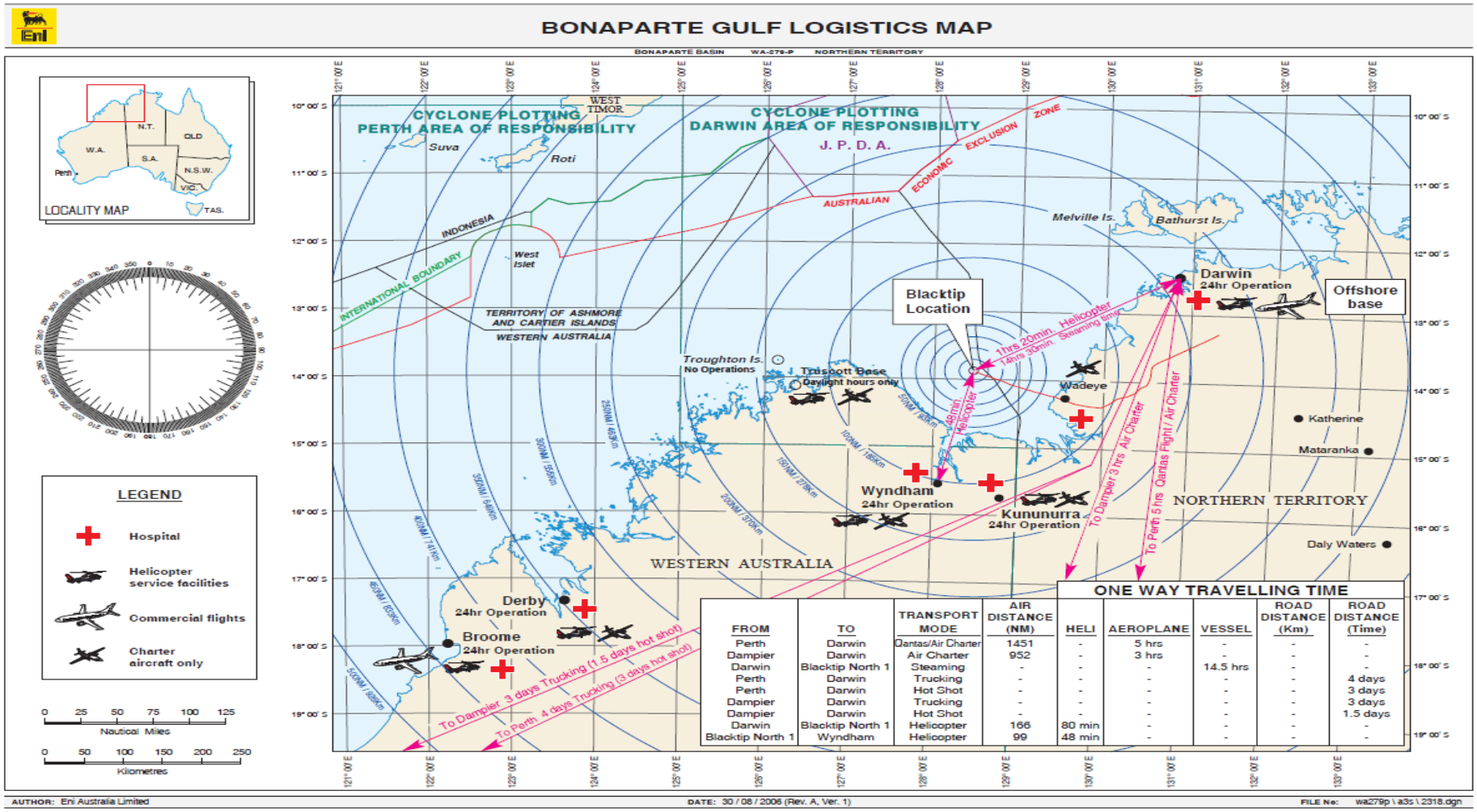

Figure 3.1: Logistics map with aerial support bases, response times

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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 Offshore Services Australia (OSA), PHI and Hardy Aviation Solutions.

Company	Contact Details
Offshore Services Australia Truscott Operations	OSA.TSTOPS@chcheli.com +61 8 9161 4072
PHI	phibmeops@phi-int.com +61 8 9138 7719
Hardy Aviation	ops@hardyaviation.com.au + 61 427 278 110

These aircraft may be used for:

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

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

- Hardy 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.

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Table 3.2: Aircraft resources

Transport Type	Base	Oil Spill Response Capability	Comment
Helicopters	Truscott	OSA and PHI 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.

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

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The IMT 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.

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4. OPEP REQUIREMENTS AND LEGISLATIVE FRAMEWORK

The OPEP has been developed to meet all relevant requirements of the OPGGS(E) Regulations 2023. 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); and
- NT Department of Environment, Parks and Water Security (DEPWS).

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	DCCEEW
Environmental Protection and Biodiversity Conservation Regulation 2000	Protection of Australia's environment and biodiversity values	DCCEEW
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
Biodiversity Conservation Act 2016	Conservation and protection of flora and fauna	DBCA
Wildlife Conservation Regulations 1970	Conservation and protection of flora and fauna	DBCA

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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.	DEPWS NT EPA is an independent corporation established under the Act
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.	DEPWS
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.	DEPWS DEPWS (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).

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Table 4.2: Marine oil pollution arrangements

Role	Spill Level	WA State waters [1]		NT waters [1]		Commonwealth waters	
		Blacktip Facility / Drilling	Vessel	Blacktip Facility / Drilling	Vessel	Blacktip Facility / Drilling	Vessel
Control Agency	1	WA DoT[2] *With support from Titleholder*	WA DoT[2] *With support from Titleholder*	NT DEPWS[3] *With support from Titleholder*	NT DEPWS[3] *With support from Titleholder*	Eni	AMSA
	2/3	WA DoT[2] *With support from Titleholder*	WA DoT[2] *With support from Titleholder*	NT DEPWS[3] *With support from Titleholder*	NT DEPWS[3] *With support from Titleholder*	Eni	AMSA
Jurisdictional Authority	1/2/3	WA DoT	WA DoT	NT DEPWS	NT DEPWS	NOPSEMA	AMSA

[1]For the Blacktip drilling and operations, this is spills originating in Commonwealth waters and crossing to State/Territory waters.

[2]WA's DoT has advised that, in the event of a spill, under the Emergency Management Act 2005, it has the power to take over the role of Control Agency. Under the State Hazard Plan – Maritime Environmental Emergencies (SHP-MEE), the DoT will not have the full support from all agencies unless the DoT is the Control Agency.

[3]A combination of DEPWS / Territory Emergency Management Council (TEMC) / NT Police may assume the 'Control Agency / Controlling Authority' (CA) role in some instances, as advised by DEPWS.

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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 (referred to in Table 4.2) 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 Eni 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 Jurisdictional Authorities and support organisations to join the Eni IMT

Support	Trigger to join the IMT
AMSA	Spill response activated or requiring NatPlan Resources. An event which has, in the opinion of the IMTL, 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 IMTL, the potential to escalate into a Level 2 or Level 3 spill.
WA DoT and NT DEPWS	Spill has potential to enter WA or NT waters.

Based on spill modelling undertaken for the Worst Credible Spill Scenario (WCSS) scenarios identified in the Blacktip EPs, it is expected that spill response will take place primarily, and potentially completely, within offshore Commonwealth waters. However, a spill may enter WA State and/or Territory waters and shoreline accumulation may occur. Therefore, arrangements for State/Territory waters response are outlined in case spill trajectories reach these jurisdictions.

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.

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Blacktip WHP, SPM or wellhead

For Blacktip spills in Commonwealth waters from the Blacktip WHP, SPM or wellhead (including production and drilling) 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 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 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 IMTL 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.

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AMSA manages the NatPlan, which has been developed in consultation with State/ Territory 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 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 waters).

4.2.5 State/Territory Authorities

In the event of a Level 2/3 spill entering WA State/NT waters, WA DoT / NT DEPWS is the Control Agency.

Eni will conduct initial response actions in WA State/NT waters in accordance with this OPEP and will continue to manage those operations until formal incident control can be established by WA DoT / NT DEPWS . In performing the Control Agency function, WA DoT / NT DEPWS 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 DEPWS is notified of a spill entering WA State/NT waters they will establish an IMT. The WA DoT / NT DEPWS 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 WA State/NT IMTs as outlined in Section 5.6.3 and Appendix G. These individuals will not occupy roles on Eni's IMT to ensure full availability for supporting WA DoT / NT DEPWS IMT.

To facilitate effective coordination between Eni's and WA DoT, a Joint Strategic Coordination Committee (JSCC) will be established (Figure 4.1). The JSCC will be jointly chaired by the WA DoT 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 DEPWS.

Western Australian Department of Transport

The WA DoT Maritime Environmental Emergency Response 24-hour reporting number is (08) 9480 9924.

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 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.

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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 DBCA respectively.

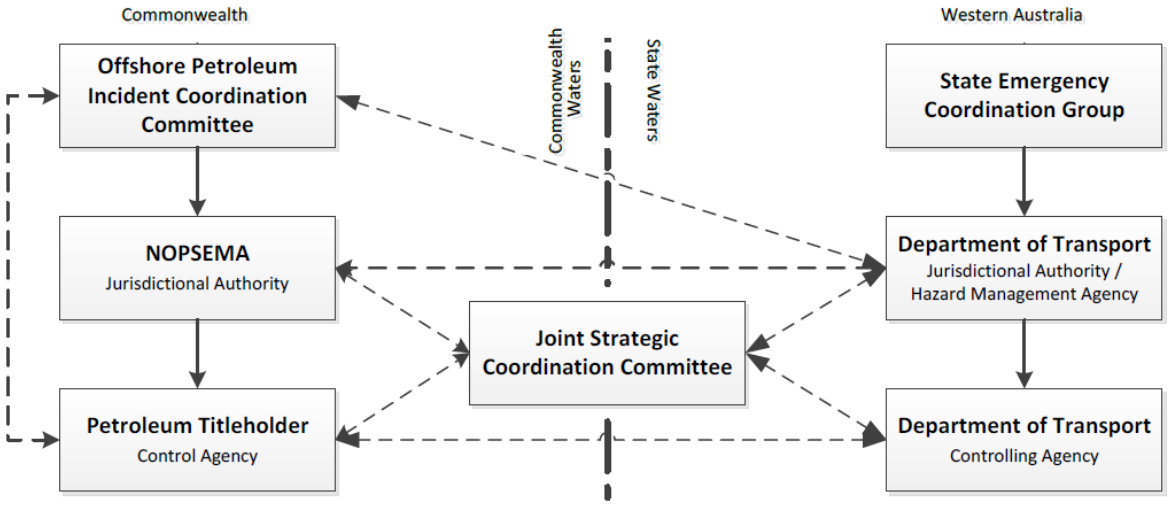

Figure 4.1: WA cross jurisdictional control agency coordination structure

NT Department of Environment, Parks and Water Security

The NT Department of Environment, Parks and Water Security (DEPWS) has been appointed as Hazard Management Authority for oil spills in NT waters (excluding Darwin Harbour) under the 'all-hazards' Territory Emergency Plan (TEP) (NT Emergency Services 2022). NT DEPWS will be the Control Agency (as per Table 4.2). Level 2 incidents inside port waters may also come under the authority of DEPWS.

Upon notification of a spill entering, or with the potential to enter NT waters, the DEPWS, as Hazard Management Authority, specifically, the DEPWS CEO in their role as Territory Marine Pollution Coordinator, will notify the Territory Emergency Controller (NT Commissioner of Police or delegate) who will appoint an NT Incident Controller (NT IC). The NT IC will form an IMT appropriate to the scale of the incident with representatives from relevant emergency "Functional Groups" as identified under the TEP.

If required an IMT will be established, made up of staff from across NT Government. If requested by the NT IC members from the National Response Team may also be present.

The NT IMT will be supported by existing NT emergency response arrangements, as defined in the NT Emergency Management Act 2013, through the TEMC.

The NT Oil Spill Contingency Plan (OSCP) (Northern Territory Government, 2021), is a subplan under the TEP. The DEPWS has agreed (as per NT Govt/APPEA Oil Spill Preparedness and Response Working Group consultation, 20 June 2023), in principle, to utilise the WA Department of Transport (WA DoT) Marine Oil Pollution: Response and Consultation Arrangements, as the basis for development of NT cross jurisdictional arrangements. A working group is being established to develop the NT cross-jurisdictional arrangements, which once agreed, will be updated into the NT OSCP. In the interim, the WA DoT (2020) cross jurisdictional guidance can be broadly utilised by titleholders, as reference for how to support the NT IMT.

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For a spill originating from an Eni activity in Commonwealth waters, as soon as possible, and in any case within 24 hours of Eni becoming aware of an incident/spill that could reach in NT waters, Eni will notify the NT Pollution Response Hotline and the DEPWS.

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

The NT IC with advice from NT Environment, Scientific & Technical advisors will work with the Eni IMT to agree protection priorities and determine the most appropriate response in NT waters.

Eni will provide support to the NT IMT, from the Eni IMT and any other relevant resources within the Eni Darwin office and from the YGP.

At the request of the NT IC, Eni will be required to provide all necessary resources, including personnel and equipment, to assist the NT IMT in performing its duties as the Control Agency for NT waters and shoreline response. This may include the provision of personnel to work within the NT IMT to assist response activities such as shoreline protection and clean-up and oiled wildlife response, with the required numbers to be determined based on the nature and scale of the spill and response requirements at the time.

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

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.

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

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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.
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; and • 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

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	the most appropriate location to provide the most timely and effective response. 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); and • 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; and • 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.

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Table 4.5: OSRL mobilisation & nominated call-out authority

Name	Position	Phone	Email
Denis Palermo	Managing Director	**0061 893201129** 0061 473801597	denis.palermo@eni.com
Giamberardino Pace	Operations Manager	**0061 893202639** 0061 418296944	giamberardino.pace@eni.com
Joe Covic	HSEQ Manager	**0061 893202611** 0061 419833760	joe.covic@eni.com

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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: CMT, IMT and Site Response. The principal duties of each level are shown in Figure 5.1

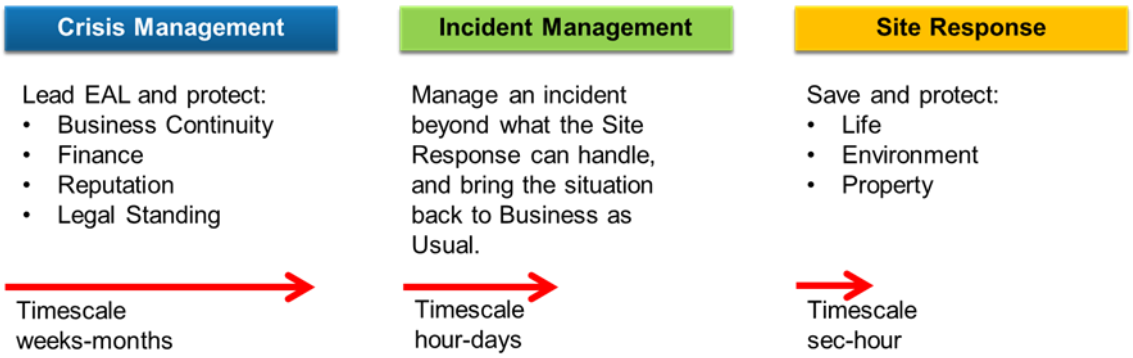

Figure 5.1: The ICM organisation's principal duties and timescales

5.2 Chain of Command

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

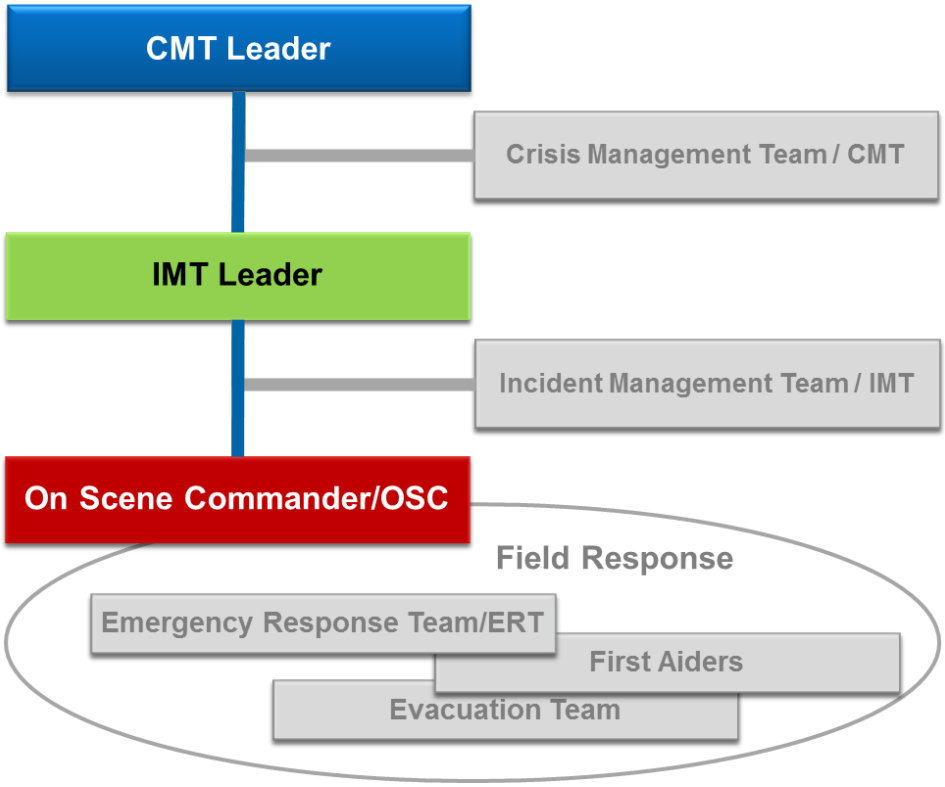

Figure 5.2: Incident and crisis management organisation chain of command

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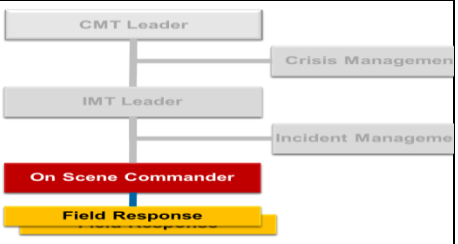
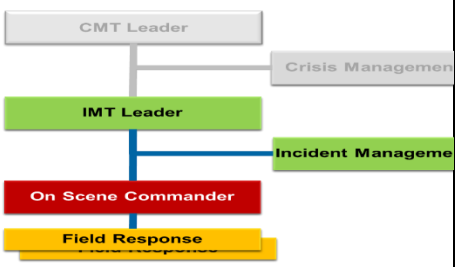
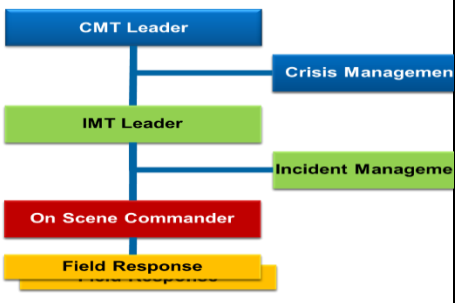
5.3 Activation

Activation of the ICM organisation is to be executed in the following 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	
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	

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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. OSCs is appointed by default as follows:

- Vessel Activities: Vessel Master;
- Blacktip Operations: POS; and
- Blacktip Drilling Activities: Drilling 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 500m 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.

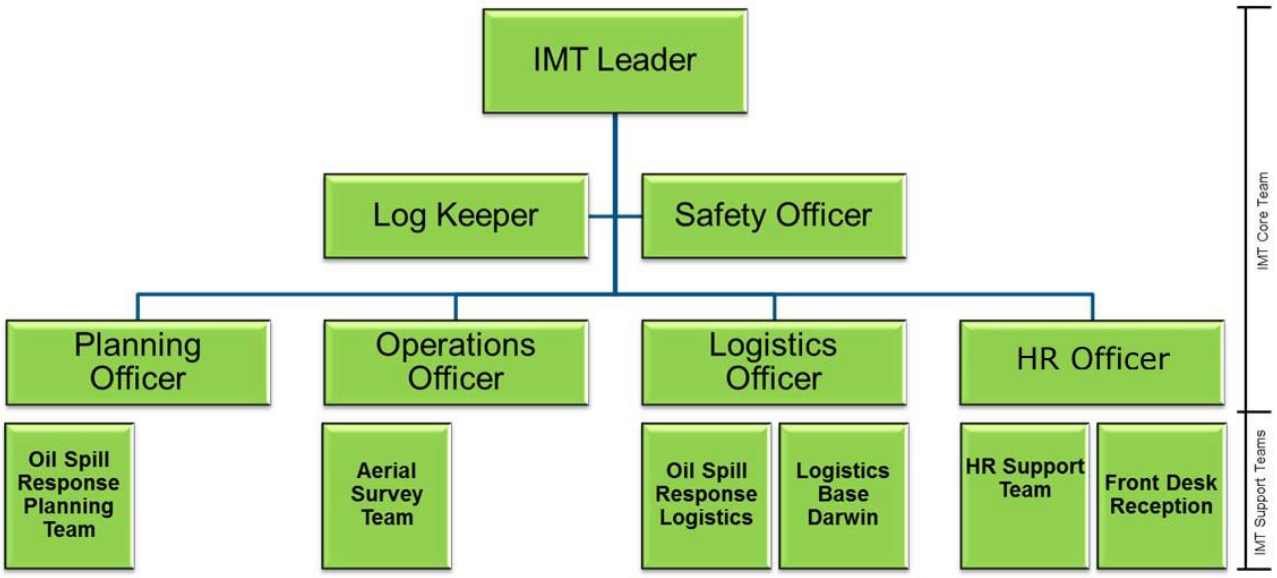

Figure 5.3: IMT and Support Teams for Oil Spill Response operation

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5.6.1 IMT and Support Resourcing

Should an incident occur, the IMT Duty Officer would be notified immediately. This rostered role is on-call, 24 hours/day and 7 days/week. The IMT Duty Officer would then inform the IMTL who in turn will decide to activate the IMT or not.

If the incident involves a well blowout / loss off well control, the SCRP would be initiated and the required relief well personnel would be included in the incident response structure.

Should the Source Control Response (Section 8.1) be activated in the case of a LOWC the Operations Officer will request the Source Control Team to assemble and report back. The Operations Officer will then report to the IMTL. The IMTL has the overall responsibility to manage the whole incident. The Planning Officer and Logistics may have a team underneath them to plan ahead for relief well drilling.

Eni manages its IMT resourcing through a range of arrangements including internal Eni Australia personnel, Eni Natural Resources and external support. Eni internal capability includes competent personnel available for IMT from various departments in Australia.

The personnel required for an oil spill incident, by order of importance is provided from the following sources:

- Eni Australia: the team will be partly or wholly involved in the incident. Currently, 14 engineers are working in the well operations department. The operations team as wells as decommissioning will be added to this team;
- Eni Natural Resources: the Eni headquarter has a stablished ERT in place for managing the incidents globally. Upon initiation of IMT in Eni Australia, the Eni Natural Resources will be notified and will be active involved from hour one of the incident. Depending on the extent of the incident, additional personnel will be mobilised to the country;
- AMOSC: the organisation has a pool of experienced personnel in the area of spill prevention and combat. AMOSC has expressed their capacity and readiness to assist operators, where required. Eni's master services contract with AMOSC gives access approximately 100 oil spill trained personnel through industry core group (refer Section 4.2.3;
- Local resource agencies: Eni Australia has contract with both Zenith and LPM who have access to a wide variety of professional drilling personnel in Australasia as well as in UK (using Zenith UK branch);
- Wild Well Control (WWC): focused on well control. WWC is mobilising their own personnel for the well control operations;
- OSRL: OSRL has about 150 oil spill technical personnel available across their global bases. Eni has guaranteed access to 18 Response Specialists from OSRL for any incident under the Associate Membership Agreement (refer Section 4.2.6). Eni may request for additional resources from OSRL for major oil spill events and the resources will be available on a best endeavour basis; and
- Other operators in Australia; under the MOU agreement which has been re-signed by the majority of the operators in offshore Australia.

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5.6.2 IMT Capability

Table 5.2 provides a summary of the IMT personnel availability. The IMT Resourcing Plan (Appendix G) includes further details on the IMT personnel requirements for each of the IMT functional positions over the duration of the response and how the positions are filled. As shown in Appendix G, all key Lead IMT positions are filled by Eni personnel, with additional persons coming from specialist groups or the AMOSC core group.

As presented in Table 5.2, the IMT has additional redundancy in numbers to fill IMT functional positions above that identified in the IMT Resourcing Plan (Appendix G). Significant redundancy to the requirement is available from the AMOSC core group, via the mutual aid arrangement and via OSRL amongst others.

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Table 5.2: Indicative personnel resourcing for the IMT

Group	Personnel Requirements Summary[1]	Personnel Available	Personnel redundancy (to Appendix G IMT resourcing)	Note
Eni Australia	27	27 (guaranteed access)	0	IMO L1 and L2. All IMT roles are filled with Eni personnel in first instance
Eni Natural Resources (HQ) / Indonesia	14	18 (guaranteed access)	4	IMO L1 and IMO L2 in Indonesia. All IMT roles are filled with Eni personnel in first instance.
AMOSC & AMOSC Core Group	38	At least 50 (guaranteed access)	12	Available through contractual arrangements with AMOSC
Local resource agencies	40	At least 50	12	Various Eni contractual arrangements for specialist personnel.
AMOSC Mutual Aid	0	At least 100	100	Available through AMOSC mutual aid arrangements
OSRL	0	18 (guaranteed access)	18	Available through contractual arrangements/membership with OSRL (18 guaranteed access with additional persons from the OSRL pool worldwide)
OSRL additional support (OSRL personnel)	0	Best endeavours basis from the OSRL global pool or personnel	N/A	
Wild Well Control	2	10 (guaranteed access)	8	Available through contractual arrangements with WWC
Total		**263**	**169**	

Note 1: refer to Appendix G IMT resourcing for details. Numbers include resourcing State and Territory IMTs
Note 2: Redundancy to the numbers required for IMT resourcing (Appendix G IMT resourcing)

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A roster of 12 days' work/ 2 days off works well for resourcing the IMT, as experienced during Macondo incident. Based on the criticality and availability of the personnel, this may change as the incident progresses. Assuming a response requiring two rotational IMT teams with a day and night shift for each team, the total resourcing requirement for the IMT is estimated to be 50-60 persons. Peak resourcing requirements for IMT is anticipated between week 3 and week 11 in a worst case LOWC event and thereafter to gradually decline until the response is terminated.

The IMT Resourcing Plan (Appendix G) provides a demonstration that Eni will have access to sufficient incident management personnel to meet its IMT requirements, including those of each of the IMT functional positions over the duration of the response. Refer Table 9.1 for IMT training requirements.

Active remote/virtual source control monitoring is in place from Eni HQ, implemented by the ER team in Milan.

An ALARP assessment of IMT resourcing (including source control personnel) has been completed in Appendix H.

5.6.3 Roles and Responsibilities

Table 5.3: 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 IAP; • 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; and • 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; and • 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.
HSEQ Manager	• Ensuring annual oil spill response drills are undertaken • Ensuring the OPEP is maintained

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Role	Main Responsibility
Environment Advisor	• Oversight of operational and scientific monitoring; • Support IMT in implementing this OPEP; and • Maintain the OPEP and communicating the requirements of the OPEP.

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Role	Main Responsibility
IMT	
Duty Officer / Operations Officer	• Stand up satellite monitoring (KSAT); • Manage all activities and response to resolve the incident; and • Point of communications between IMT and OSC/ERT.
IMTL	• Coordinate all onshore support in accordance with the OPEP; • Submit POLREP form (Level 2/3 spills); • Set the response objectives and strategic direction; • Oversee the development and implementation of Incident Action Plans; • Oversee implementation of MoUs and contracted support for 'mutual aid'; • Ensure coordination with external organisations/police, etc; • Prepare and review strategic and tactical objectives with the CMT; and • 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; and • 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; and • 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; and • 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; and • Oversee the development and implementation of incident Safety Management Plans as required.
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.

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Role	Main Responsibility
Personnel available to join DoT WA DoT / NT DEPWS CMT/IMT	
CMT Liaison Officer	• Provide a direct liaison between the CMT and the Maritime Environmental Emergency Coordination Centre (MEECC) – refer to Section 5.6.4. • 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 DEPWS IMT. Facilitate effective communications and coordination between Eni's IC and the WA DoT / NT DEPWS IC. • Offer advice to the WA DoT / NT DEPWS 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 DEPWS IMT.

5.6.4 Verification of IMT Resourcing and Training

A number of means of IMT resourcing and training verification methods are in place to ensure that the IMT remains in a state of readiness, these include:

- Maintenance of the Eni IMT registers (Australian and Indonesian), including personnel names and level of training;
- Review of the Eni IMT registers (Australian and Indonesian) approx. 2 months prior to drilling to ensure that mobilisation and personnel requirements are available to meet the IMT Resourcing Plan requirements (Appendix G);
- Periodic testing (including approx. 2 months prior to drilling) of the IMT key contacts (on duty) to ensure that the IMT can be mobilised;
- Periodic IMT contact directory reviews (including approx. 2 months prior to drilling) for contact currency; and
- IMT testing arrangements, as per Section 9.5.

5.6.5 Environmental Performance Outcomes, Environmental Performance Standards and Measurement Criteria

IMT		
EPO: Maintain resourcing for the IMT pre-mobilisation and during mobilisation		
Control	**EPS**	**MC**
IMT resourcing and maintenance	Maintenance sufficient mobilisation and personnel requirements (including redundancy) to meet the IMT Resourcing Plan requirements (Appendix G)	Audit confirms the personnel numbers against the IMT Resourcing Plan (including redundancy), including a check approx. 2 months prior to drilling activity
	Maintenance of numbers of personnel with the minimum training for the IMT roles (refer Table 9.1).	Audit of personnel against training requirements showing IMT personnel are trained to the levels in Table 9.1

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IMT		
EPO: Maintain resourcing for the IMT pre-mobilisation and during mobilisation		
Control	**EPS**	**MC**
	Eni will maintain access to additional IMT mutual aid capability, via contracts with AMOSC and OSRL.	Memberships/contractual arrangements with AMOSC and OSRL
	Maintenance of the Eni IMT registers (Australian and Indonesian), including personnel names and level of training	Eni IMT registers (Australian and Indonesian) include personnel names and level of training. Registers show that persons are available as per the IMT Resourcing Plan requirements (Appendix G)
	Review of the Eni IMT registers (Australian and Indonesian) approx. 2 months prior to drilling to ensure that mobilisation and personnel requirements are available to meet the IMT Resourcing Plan requirements (Appendix G)	Eni IMT registers (Australian and Indonesian) include personnel names and level of training. Registers show that persons are available as per the IMT Resourcing Plan requirements (Appendix G)
	Periodic testing (including approx. 2 months prior to drilling) of the IMT key contacts (on duty) to ensure that the IMT can be mobilised	Records show that periodic testing of the IMT duty phone is occurring (including approx. 2 months prior to drilling)
	Periodic IMT contact directory reviews (including approx. 2 months prior to drilling) for contact currency	Records show that the IMT contact directory is reviewed periodically (including approx. 2 months prior to drilling)

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.

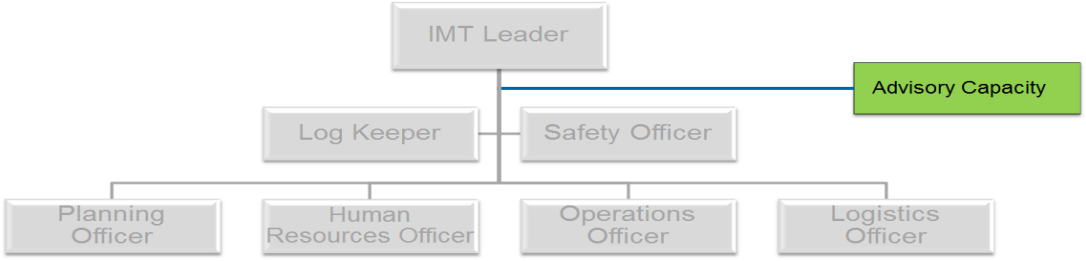

Figure 5.4: Advisory capacity to IMT

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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.

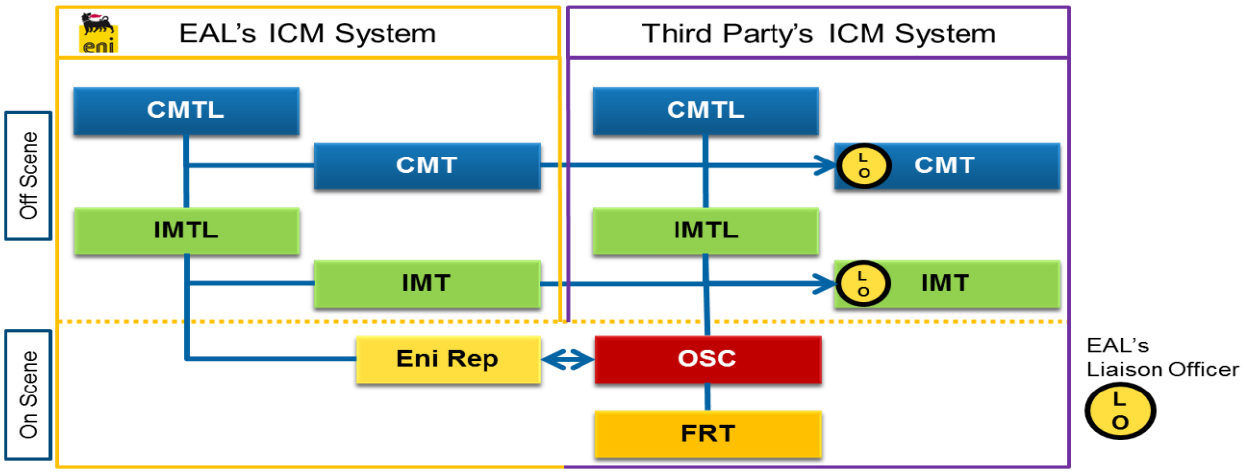

Figure 5.5: Principle of liaison when another organisation is the Controlling Agency

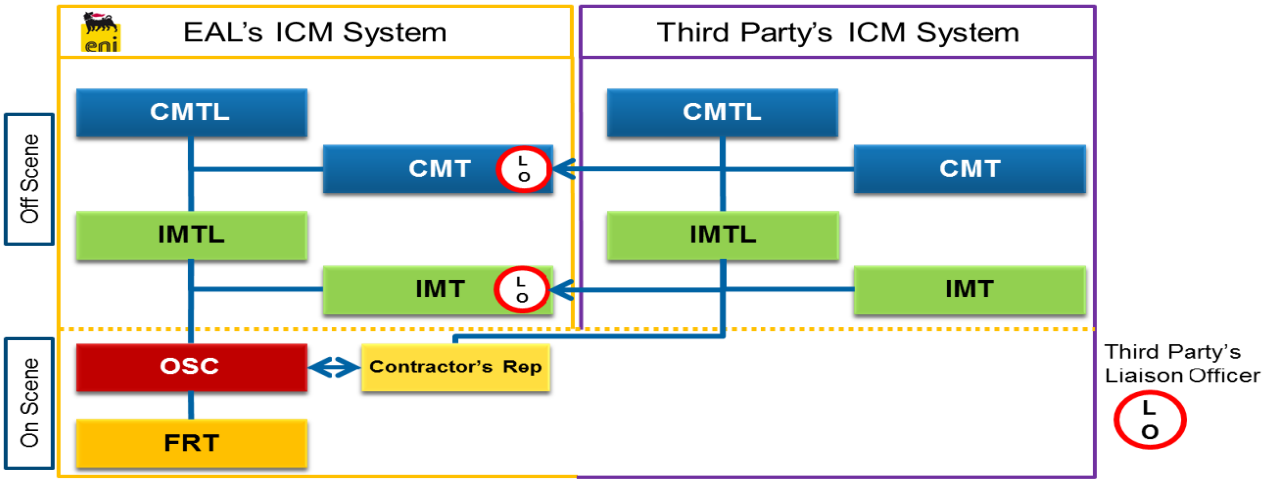

Figure 5.6: Principle of liaison when EAL is the Controlling Agency

5.7.3 WA Department of Transport and NT Department of Infrastructure, Planning and Logistics

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 WA DoT personnel deployed to the other's respective IMT and the role they will be expected to fulfil is outlined in Table 5.4. A minimum of three Eni Liaison officers are required to fill key roles:

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

The other roles may be filled by Eni personnel or personnel from AMOSC or the Core Group (refer to Appendix G). These personnel can provide the required personnel in addition to meeting the Eni IMT requirements set in Section 5.6. Similar roles may also be provided to NT DEPWS to support their IMT in the event of a response in NT waters.

Table 5.4: 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 HSEQ Manager.

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6. IDENTIFIED SPILL RISKS

6.1 Credible Spill Scenarios

Unplanned loss of containment events for the Blacktip facilities have been identified during risk assessments of both Blacktip operations and drilling activities. Table 6.2 Table 6.2 present the WCSS identified for Blacktip operations and drilling respectively. Further details, including spill modelling are presented in the Blacktip EPs.

Response strategies, detailed in Section 8 encompasses response to any of the WCSS detailed in Table 6.2 and are also applicable to all other scenarios of a lesser scale and extent.

Table 6.1: Blacktip Operations Worst Credible Spill Scenarios

Scenario	Volume	Release duration	EP Section	Modelled
Blacktip condensate at WHP				
Loss of well control during production operations resulting in a long-term (74 day) uncontrolled surface release of 4,943m^3 Blacktip condensate.	4,943m^3	74 days	EP Section 8.6	**Yes**
Loss of well control during 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 surface release of 4,943m^3 Blacktip condensate.	4,943m^3	74 days		No
Blacktip condensate at SPM				
A failure of the export pipeline upstream of the PLEM during a condensate export operation at the SPM. Assuming it takes up to 5 minutes to detect the spill and stop the pumping operations (pumping at 450m^3/hr), up to 40m^3 would be released until the pump is stopped.	40m^3	5 minutes	EP Section 8.7	No
A failure of floating or submarine flexible hose at SPM (downstream of PLEM) during a condensate export operation.	40m^3	5 minutes		No
Blacktip condensate along the export pipeline				
A subsea leak during operations through a <50 mm diameter hole at any point within Commonwealth waters along the export pipeline due to corrosion. A small leak would not result in sufficient pressure drop to trigger the low-pressure alarm. The export pipeline pressure is at 7-8 barg, and a low-pressure alarm is triggered at <5 barg. Therefore, a small leak could only be detected visually by vessel (e.g., bubbling at surface) or during survey/pigging or through discrepancy between gas production rates at WHP and YGP during the history matching, which is conducted at least weekly.	150m^3	1 week	EP Section 8.8	No

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Scenario	Volume	Release duration	EP Section	Modelled
A large leak (>70 mm hole diameter) would trigger the low-pressure alarm and automatically trigger pipeline shut-in. A leak size between 50-70 mm hole diameter would not necessarily trigger the low-pressure alarm but would result in a noticeable change in the pipeline flow rate and a pressure drop, which would be identified by the Control Room Operator who will shut-in the pipeline. The volume of condensate released in these scenarios would be <50m^3.	<50m^3	1 hour		No
MDO				
Surface release of MDO from a vessel as a result of an external impact (vessel collision), which ruptures an MDO tank.	60m^3	1 hour	EP Section 8.9	**Yes**
Surface release of MDO due to leaking or ruptured bunker transfer equipment.	<40m^3	15 minutes		No

Table 6.2: Blacktip Drilling Worst Credible Spill Scenarios

Scenario	Volume	Release duration	EP Section	Modelled
Blacktip condensate				
Loss of well control during drilling (well blowout) resulting in a long-term (74 day) uncontrolled surface release of 4,943m^3 Blacktip condensate.	4,943m^3	74 days	EP Section 8.6	**Yes**
Loss of well control during drilling (well blowout) as a result of an explosion / fire scenario resulting in short term (3 day) surface release and a long-term (71 day) uncontrolled surface release of 4,943m^3 Blacktip condensate.	4,943m^3	74 days		No
MDO				
Surface release of MDO from a vessel as a result of an external impact (vessel collision), which ruptures an MDO tank.	60m^3	1 hour	EP Section 8.7	**Yes**
Surface release of MDO due to leaking or ruptured bunker transfer equipment.	<40m^3	15 minutes		No

6.2 Hydrocarbon Characteristics and Behaviour

Two types of hydrocarbons may be accidently spilled at Blacktip facilities are:

- Blacktip condensate; and
- MGO or MDO from vessels.

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6.2.1 Blacktip condensate

Table 6.3 and Table 6.4 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 6.3: 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 6.4: 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.

The condensate is composed of hydrocarbons that have a wide range of boiling points and volatilities at atmospheric temperatures, and which will begin to evaporate at different rates on exposure to the atmosphere. Evaporation rates will increase with temperature, but in general about 63.6% of the hydrocarbon mass should evaporate within the first 12 hours; a further 35% should evaporate within the first 24 and a further 0.4% should evaporate over several days.

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 (95 % lost volume) (Intertek, 2013) (Figure 6-1).

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The weathering test (Intertek, 2013) also presents changes in hydrocarbon composition due to evaporation. Composition change occurs in a systematic manner with the lightest, most volatile compounds weathered first following by hydrocarbons with increasing boiling point (Figure 6-2). The relative percentage of wax content in Blacktip increases from 4% in the original to 76% by 72 hours. Blacktip condensate was also monitored for the presence and change in the BTEX and PAH concentration in the oil. The results are provided in Table 6-5 and showed an overall decrease in the concentrations of what may be considered volatile aromatics such as the BTEX compounds and naphthalene. The loss of most of this material is likely to be atmospheric. Of the remaining PAHs identified (fluorene and phenanthrene), slight increases in the levels can be observed possibly due to the concentration of the oil over time (Intertek, 2013).

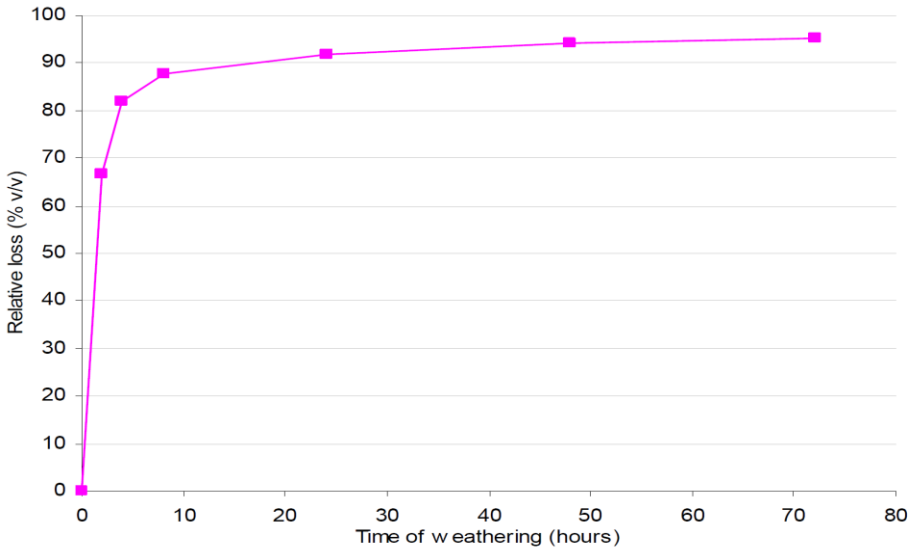

Figure 6-1: A summary of the weathering (loss) for the Blacktip condensate over 72 hours. (Intertek, 2013)

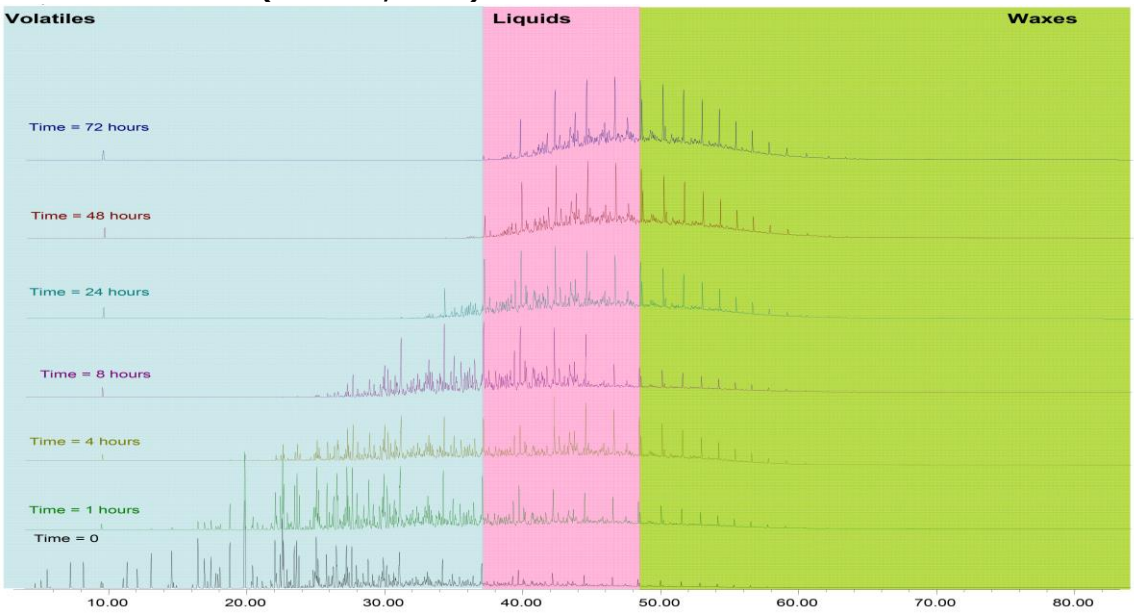

Figure 6-2: A summary of the weathering (loss) for the Blacktip condensate over 72 hours. (Intertek, 2013)

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Table 6-5: Changes in BTEX and PAH content during weathering of the Blacktip condensate in winter and summer conditions over 72 hours

		Weathered Time (hours)						
Compounds	**Units**	**0**	**1**	**4**	**8**	**24**	**48**	**72**
Naphthalene	ppb	204	409	502	579	215	nd	nd
Acenaphthalene	ppb	nd	nd	nd	nd	nd	nd	nd
Acenaphthene	ppb	nd	nd	nd	nd	nd	nd	nd
9H-Fluorene	ppb	42	99	135	194	250	266	366
Phenanthrene	ppb	33	86	113	167	224	320	426
Anthracene	ppb	nd	nd	nd	nd	nd	nd	nd
Fluoranthene	ppb	nd	nd	nd	nd	nd	nd	nd
Pyrene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(a)anthracene	ppb	nd	nd	nd	nd	nd	nd	nd
Chrysene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(b)fluoranthene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(k)fluoranthene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(a)pyrene	ppb	nd	nd	nd	nd	nd	nd	nd
Indeno(123cd)pyrene	ppb	nd	nd	nd	nd	nd	nd	nd
Dibenzo(ah)anthracene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzo(ghi)perylene	ppb	nd	nd	nd	nd	nd	nd	nd
Benzene	ppm	610	nd	nd	nd	nd	nd	nd
Toluene	ppm	3338	300	33	nd	nd	nd	nd
EthylBenzene	ppm	1395	450	45	nd	nd	nd	nd
Xlyene	ppm	6429	3200	320	nd	nd	nd	nd

6.2.2 Marine Gas Oil and Marine Diesel Oil

MGO describes distillate fuels. 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. 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 6-6 and Table 6-7 show the physical characteristics and boiling point ranges for MDO.

Table 6-6: Physical properties MDO

Properties	Value
Density (kg/m³)	829 (at 25ºC)
API	24
Dynamic viscosity (cP)	14 (at 25 ºC)
Pour point (°C)	-9
Hydrocarbon property category	Group II
Hydrocarbon property classification	Light persistent

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Table 6-7: Boiling point ranges for MDO

Name	Volatiles (%)	Semi-Volatiles (%)	Low Volatiles (%)	Residual (%)
Boiling point (°C)	< 180	180-265	265-380	> 380
	Non persistent			Persistent
MDO	4.0	32.0	54.0	10.0

6.3 Response Planning Thresholds for Surface and Shoreline Hydrocarbon Exposure

The following information is derived from oil spill response planning literature and industry guidance and supports the selection of the response planning thresholds. The thresholds used for response planning are summarised in Table 6.8.

Table 6.8: 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[1]	Predicted minimum floating oil threshold for containment and recovery, dispersant application.	Containment and recovery and dispersant are not used in the response.
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 1: the thresholds for surface oil do not exceed 50 g/m^2, as modelled for the WCSS. Therefore, protection and deflection, containment and recovery and surface dispersant application is not presented in this OPEP.

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6.4 Spill Trajectory Modelling and Sensitive Receptors

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

- Long-term (74 days) surface blowout of 4,943m^3 of Blacktip Condensate from a Blacktip well during drilling or production operations.
- Surface release of 100m^3 MDO at the Commonwealth/State waters line, from a vessel as a result of an external impact (vessel collision), which ruptures an MDO tank

6.4.1 Surface Blowout at the WHP

A 4,943m³ surface condensate release was modelled by RPS (2019) at the WHP for all seasons (annualised) and is considered appropriate, although conservative, for informing the approximate spatial extent of potential impacts from a well blowout event during the Blacktip drilling activities. Table 6-9 presents the parameters and justification used in the modelling.

Table 6-9: Summary of parameter and justifications for condensate spill modelling from a well blowout

Parameter	Description
Number of spill simulations	100 per season
Hydrocarbon type	Blacktip condensate (see Table 6.3)
Release type	Well blowout
Total spill volume	4,943m³ over 74 days, assuming constant flow
Spill volume justification	Open hole flowrate
Release depth	Surface
Release depth justification	Most credible spill scenario is from the surface wellheads on the WHP
Release duration	74 days

The sections below present the summary of the modelling results.

Floating Hydrocarbon

Low exposure thresholds

Hydrocarbons are predicted to remain relatively localised around the release location. The maximum distance to the outer extent of the 1g/m^2 is predicted to be 19km (Figure 6-3).

Moderate exposure thresholds

Floating hydrocarbon concentrations are not predicted to exceed 10g/m^2 at probabilities greater than 1%.

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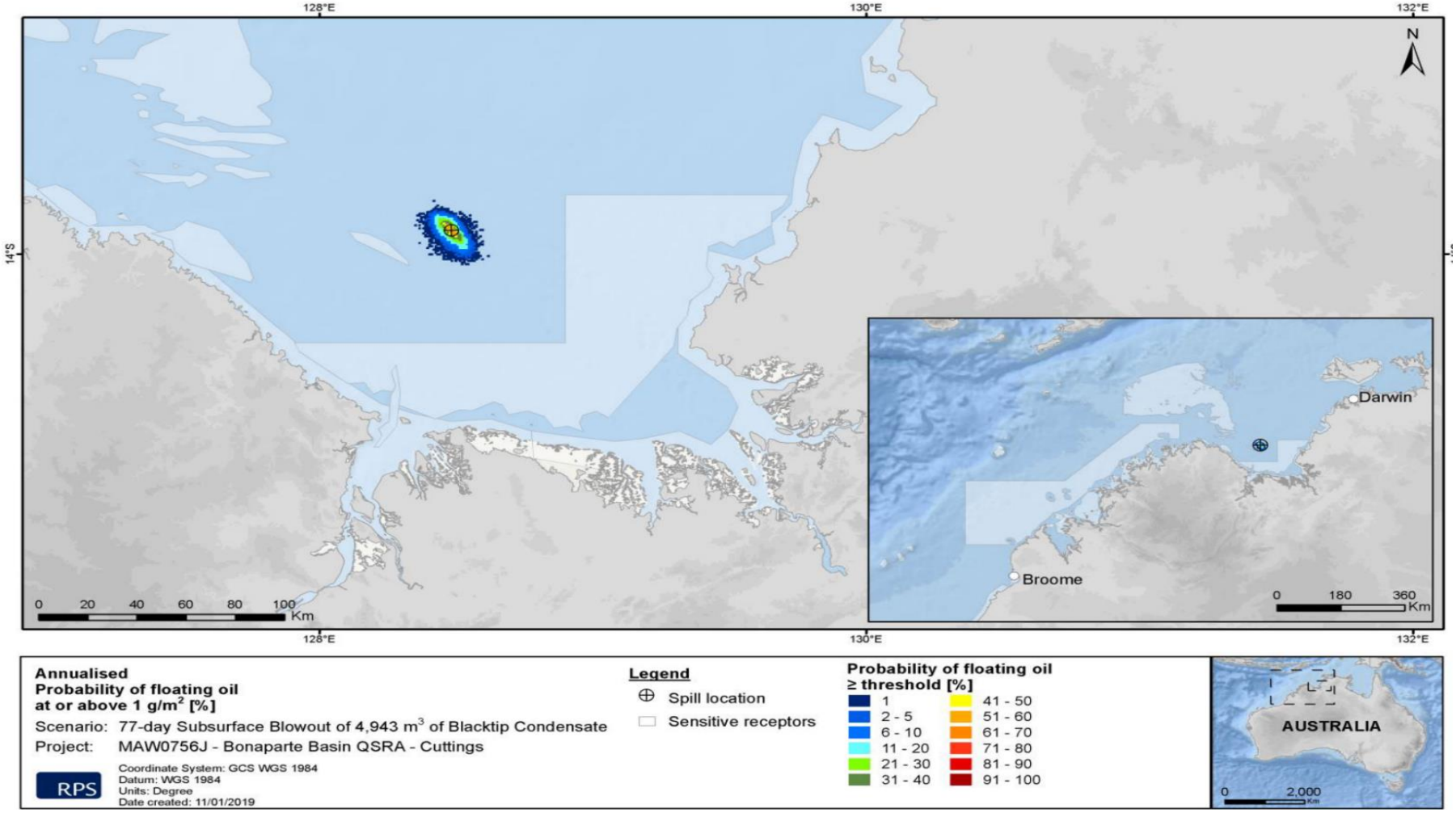

Figure 6-3: Predicted annualised probability of floating oil concentrations at or above 1 g/m² resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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Shoreline Hydrocarbon

Low and moderate exposure thresholds

Kimberley Coast, Joseph Bonaparte Gulf East and Joseph Bonaparte Gulf West receptors are predicted to have a 1% probability of receiving shoreline hydrocarbon at or above 10g/m^2, with corresponding minimum times of arrival forecast as 47 days (1,130 hours), 50 days (1,194 hours) and 85 days (2,049 hours), respectively (refer Figure 6-4).

A worst-case local shoreline accumulated concentration of 61g/m^2 and volume of 10m3 is forecast at the Joseph Bonaparte Gulf East receptor. Table 6-10 presents shoreline hydrocarbon outcomes at other sensitive receptors contacted.

Table 6-10: Expected annualised shoreline oil outcomes at sensitive receptors resulting from a 74-day surface release of Blacktip Condensate

Receptor	Maximum accumulated concentration (g/m²)	Maximum accumulated volume (m³)
Joseph Bonaparte Gulf East	61	10
Joseph Bonaparte Gulf West	11	<1
Kimberley Coast	26	<1

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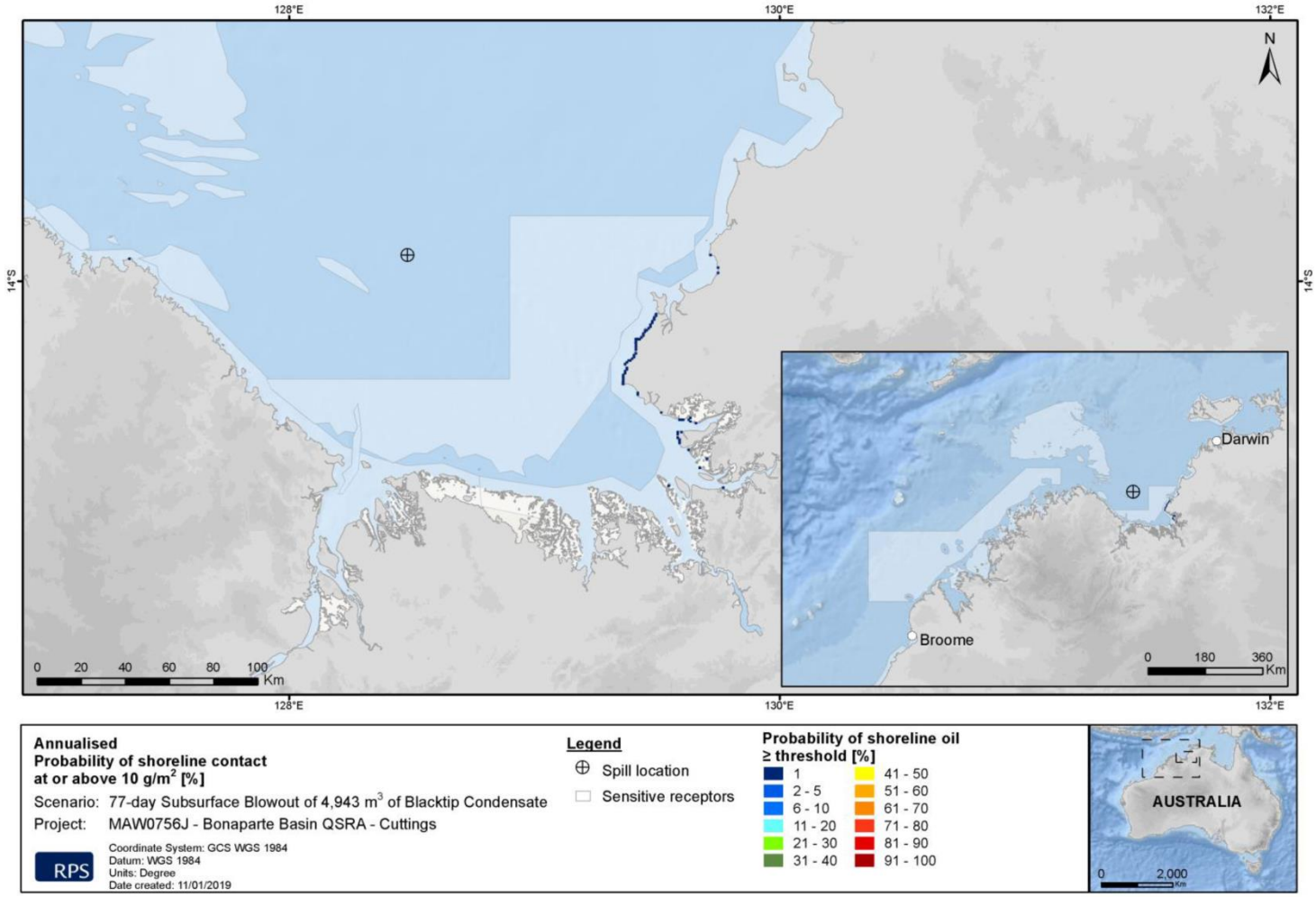

Figure 6-4: Predicted annualised probability of shoreline oil concentrations at or above 10 g/m² resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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Entrained Hydrocarbon

Low exposure threshold

Entrained oil concentrations at or greater than 10ppb could travel up to 975km from the release location (Figure 6-5).

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 (84% at 10ppb), JBG AMP (31% at 10ppb), Kimberley AMP (18% at 10ppb) and the Kimberley Coast (17% at 10ppb) (Table 6-11).

Table 6-11: Expected annualised entrained oil outcomes (≥10ppb) at receptors resulting from a 74-day surface release of Blacktip condensate

Receptor	Probability (%) of entrained hydrocarbon	Minimum time to receptor waters (hours)	Maximum entrained hydrocarbon concentration (ppb)
Joseph Bonaparte Gulf East	1	844	20
Joseph Bonaparte Gulf West	17	104	77
Kimberley Coast	17	107	110
Eugene McDermott Shoal	1	2106	11
Camden Sound	2	630	33
King Sound	2	677	37
North West Coast	1	1163	31
Joseph Bonaparte Gulf AMP	31	1	186
Carbonate Bank and Terrace System of the Sahul Shelf	84	26	256
Kimberley AMP	18	95	104

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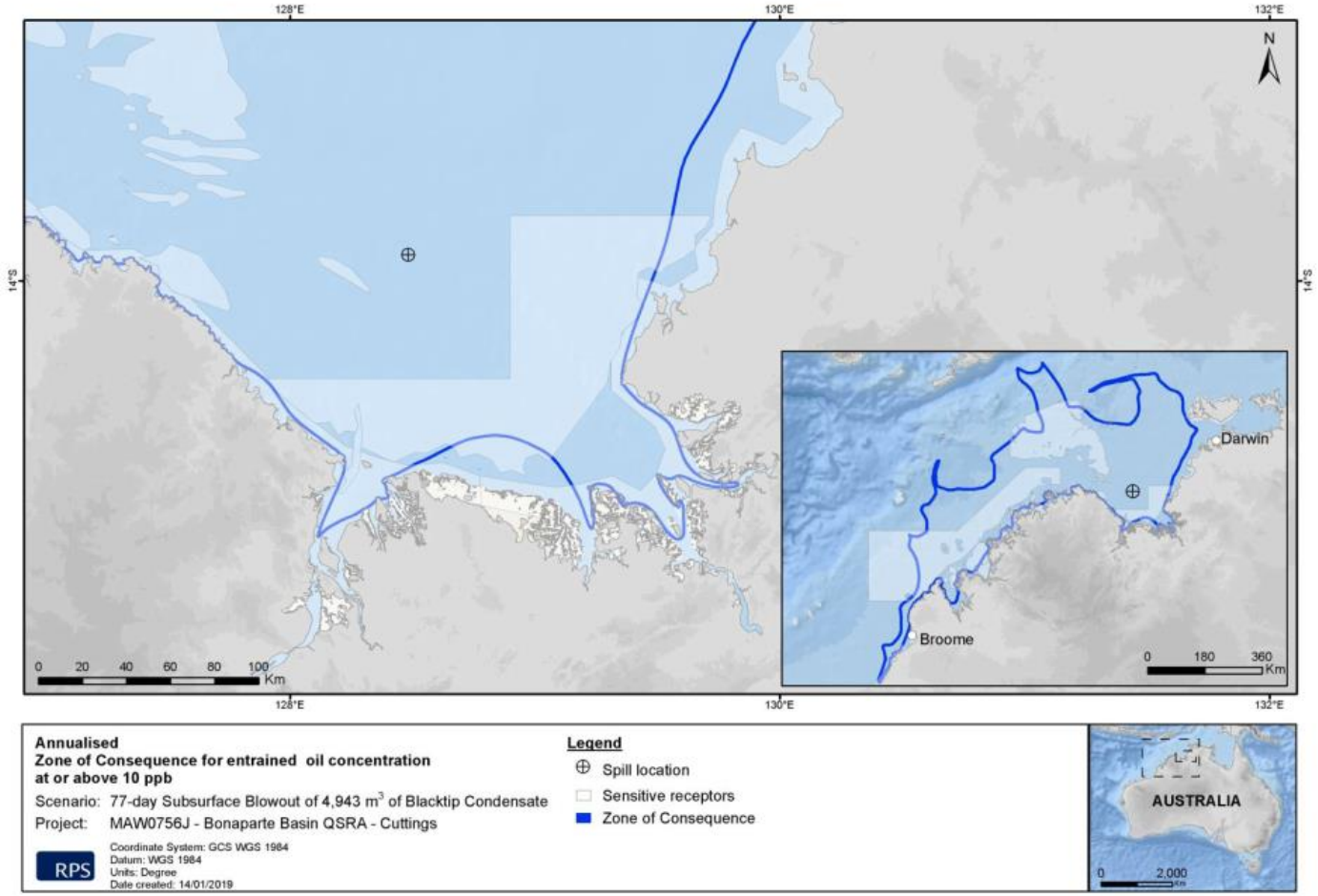

Figure 6-5: Predicted annualised EMBA of entrained oil concentrations at or above 10 ppb resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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Moderate exposure threshold

Entrained oil concentrations at or greater than 100ppb could travel up to 310km from the release location (Figure 6-6). Concentrations are not predicted to exceed 500ppb. Probability contours calculated for entrained oil at or greater than 100 ppb reveal 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 (RPS 2019).

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 100ppb), JBG AMP (1% at 100ppb), Kimberley AMP (1% at 100ppb) and the Kimberley Coast (1% at 100ppb) (Table 6-12).

Minimum times of arrival at the 100 ppb entrained oil thresholds are predicted for the Carbonate Bank and Terrace System of the Sahul Shelf KEF (34 hours at 100ppb), JBG AMP (319 hours at 100ppb), the Kimberley AMP (1077 hours at 100ppb) and the Kimberley Coast (671 hours at 100ppb).

The worst-case instantaneous entrained oil concentration at any receptor is predicted at the Carbonate Bank and Terrace System of the Sahul Shelf KEF as 256ppb.

Table 6-12: Expected annualised entrained oil outcomes (≥100ppb) at receptors resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

Receptor	Probability (%) of entrained hydrocarbon	Minimum time to receptor waters (hours)	Maximum entrained hydrocarbon concentration (ppb)
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

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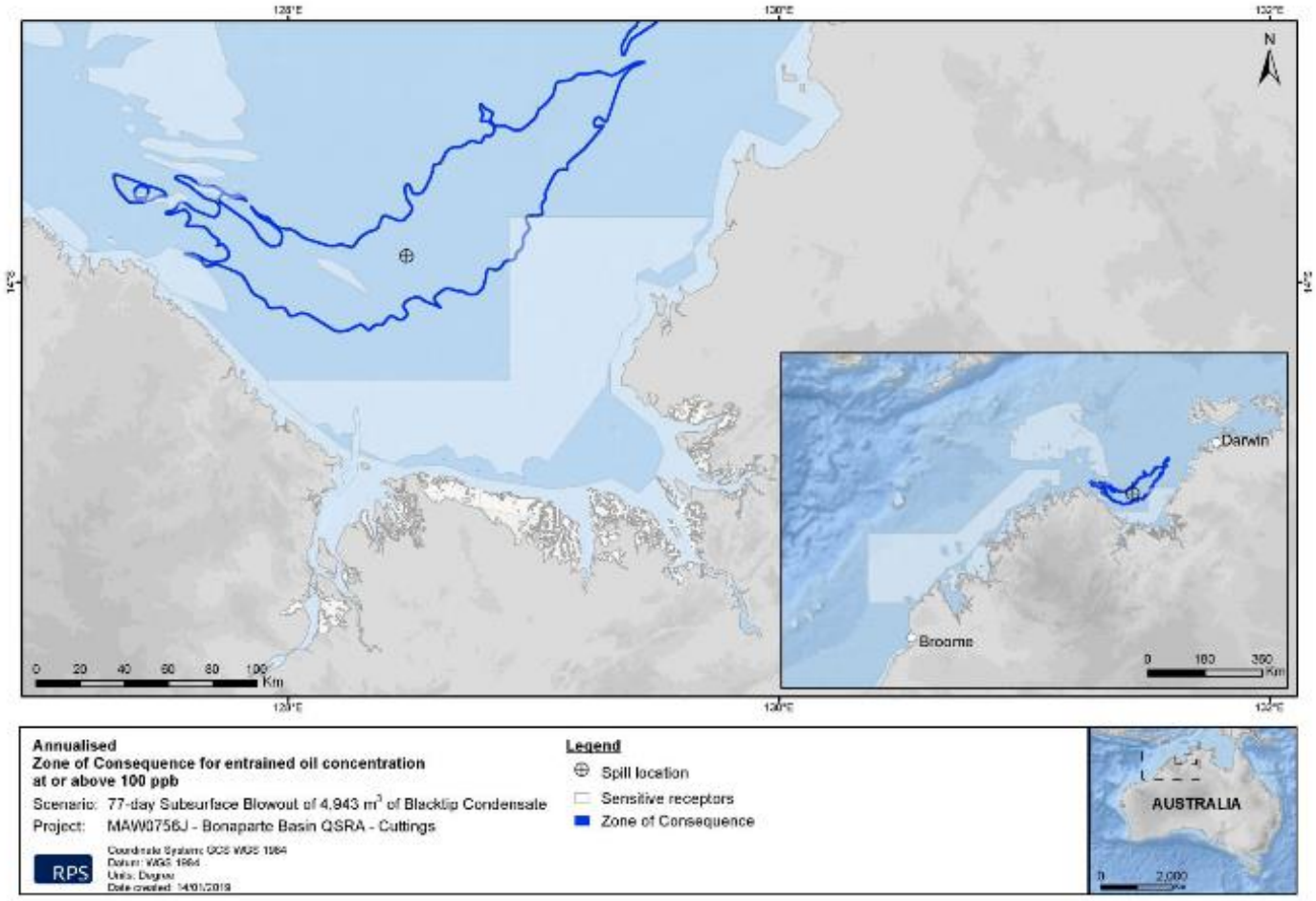

Figure 6-6: Predicted annualised EMBA of entrained oil concentrations at or above 100 ppb resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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Dissolved Aromatic Hydrocarbons

Low exposure threshold

Dissolved aromatic hydrocarbon concentrations at or greater than 6ppb could travel up to 532km from the release location. The probability contours calculated for dissolved aromatic hydrocarbons reveal the directions of travel follow those of the entrained oil (Figure 6-7).

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 6ppb threshold, respectively (Table 6-13).

The worst-case instantaneous dissolved aromatic hydrocarbon concentration at any receptor is predicted at the Carbonate Bank and Terrace System of the Sahul Shelf KEF as 44ppb.

Table 6-13: Expected annualised dissolved aromatic hydrocarbon (>6ppb) outcomes at sensitive receptors resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

Receptor	Probability (%) of dissolved aromatic hydrocarbon concentration contact	Maximum entrained hydrocarbon concentration (ppb)
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

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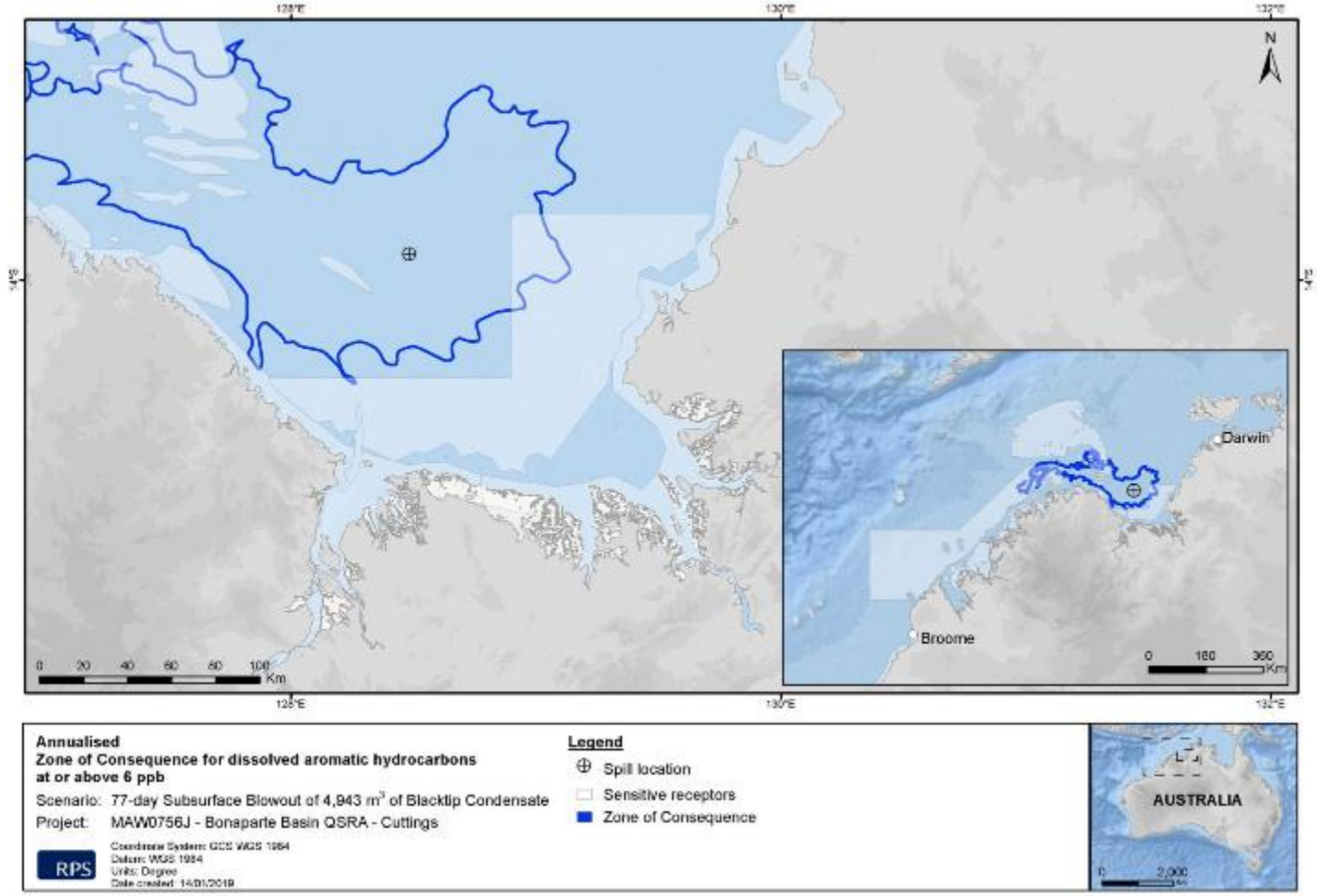

Figure 6-7: Predicted annualised EMBA of dissolved aromatic hydrocarbon concentrations at or above 6 ppb resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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Moderate exposure threshold

Dissolved aromatic hydrocarbon concentrations at or greater than 50ppb could travel up to 24km from the release location (Figure 6-8). No sensitive receptors are contacted.

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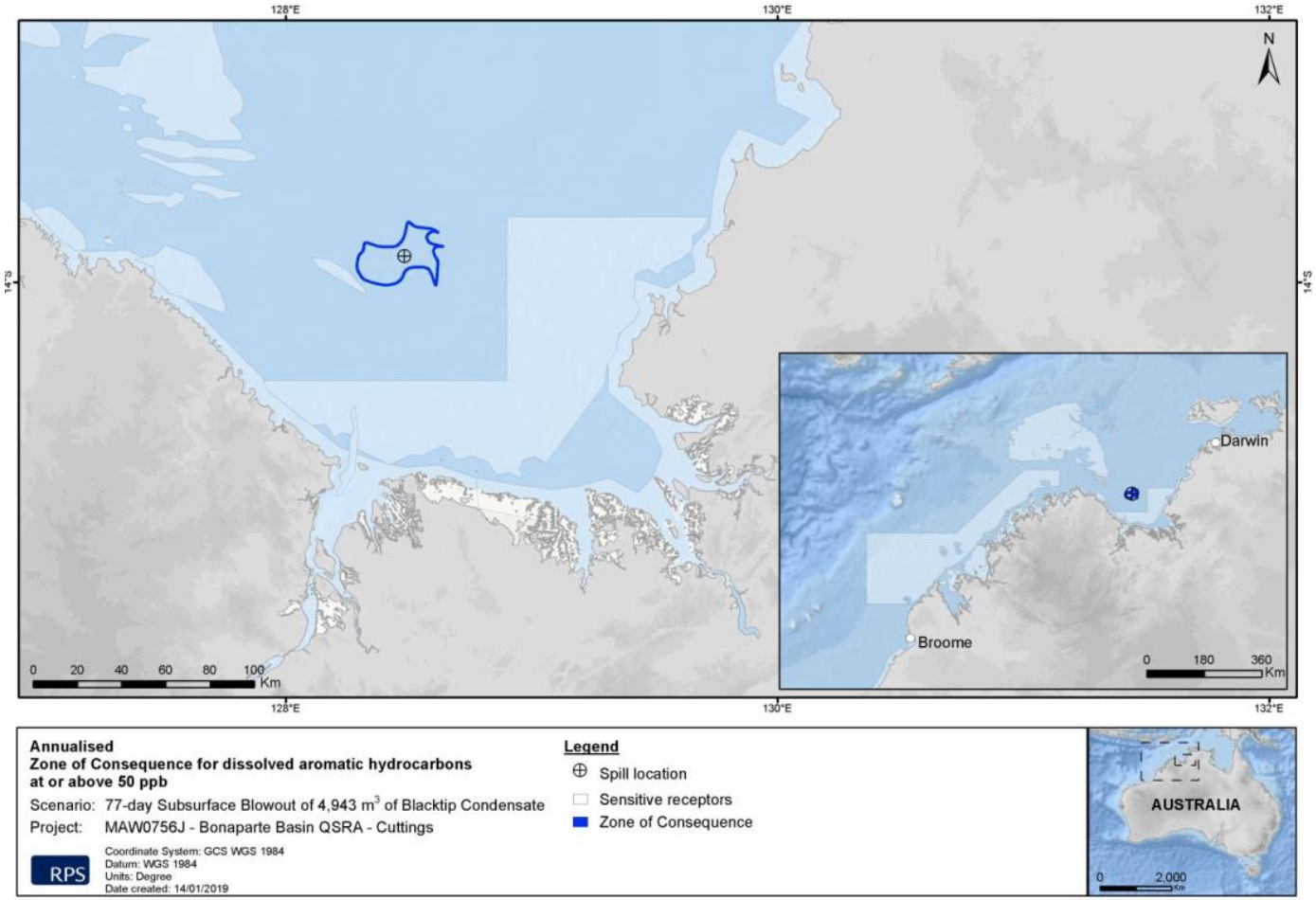

Figure 6-8: Predicted annualised EMBA of dissolved aromatic hydrocarbon concentrations at or above 50 ppb resulting from a 74-day surface release of Blacktip condensate at a Blacktip well

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6.4.2 Release of 100m³ MDO at the Commonwealth/State waters line

A 100m³ MDO surface release was modelled by RPS (2023) at the Commonwealth / State waters boundary (closest part of the Operational Area to the coastline) for summer, winter and transitional seasons and is considered appropriate, although conservative, for informing the approximate spatial extent of potential impacts from a vessel collision event during the Blacktip operations.

Table 6.14 presents the parameters and justifications used in the modelling.

Table 6.14: Summary of parameters and justifications for marine diesel spill modelling

Parameter	Description
Description	MDO vessel spill at the Commonwealth/State Waters boundary
Number of spill simulations	300 total (100 per season)
Seasons	Summer (January, February, December) Transitional (March, September to November) Winter (April to August)
Spill volume	100m^3
Oil type	Marine Diesel Oil
Release depth	Surface
Release duration	1 hour
Simulation length	30 days

Floating Hydrocarbon

Table 6-10 summarises the maximum distances from the release location to floating hydrocarbon exposure zones. Floating oil concentrations exceeding 1g/m^2 could extend up to 30km from the release location. The distances reduced to 20km and 3km as the thresholds increase to 10g/m^2 and 50g/m^2, respectively.

Table 6-16 presents the predicted floating oil exposure to receptors for each season.

Figure 6-9 to Figure 6-11 illustrate the extent of floating oil exposure zones for each season.

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Table 6-15: Maximum distances from the release location to floating oil exposure thresholds from a surface vessel spill for each season. Results were calculated from 100 spill simulations per season

Season	Distance and direction travelled	Floating oil exposure thresholds		
		Low	Moderate	High
Summer	Maximum distance (km) from release location	24	19	1
	Direction	Northeast	South	East
Transitional	Maximum distance (km) from release location	25	20	3
	Direction	South	South	North
Winter	Maximum distance (km) from release location	30	20	N/A
	Direction	South	South	N/A

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Table 6-16: Summary of floating oil exposure receptors from a surface vessel spill for each season. Results were calculated from 100 spill simulations per season

Receptor	Summer						Transitional						Winter					
	Probability (%) of floating oil at			Minimum time before floating oil exposure (hours) at			Probability (%) of floating oil at			Minimum time before floating oil exposure (hours) at			Probability (%) of floating oil at			Minimum time before floating oil exposure (hours) at		
	1 g/m^2	10 g/m^2	50 |g/m^2	1 g/m^2	10 g/m^2	50 g/ m^2	1 g/m^2	10 g/m^2	50 g/m^2	1 g/m^2	10 g/m^2	50 g/m^2	1 g/m^2	10 g/m^2	50 g/m^2	1 g/m^2	10 g/m^2	50 g/m^2
Darwin Coastal	10	2	–	4	5	–	10	1	–	4	7	–	9	1	–	6	6	–
Cambridge-Bonaparte	5	1	–	5	6	–	4	2	–	4	6	–	6	2	–	4	5	–
Thamarrurr	10	2	–	4	5	–	10	1	–	4	7	–	9	1	–	6	6	–

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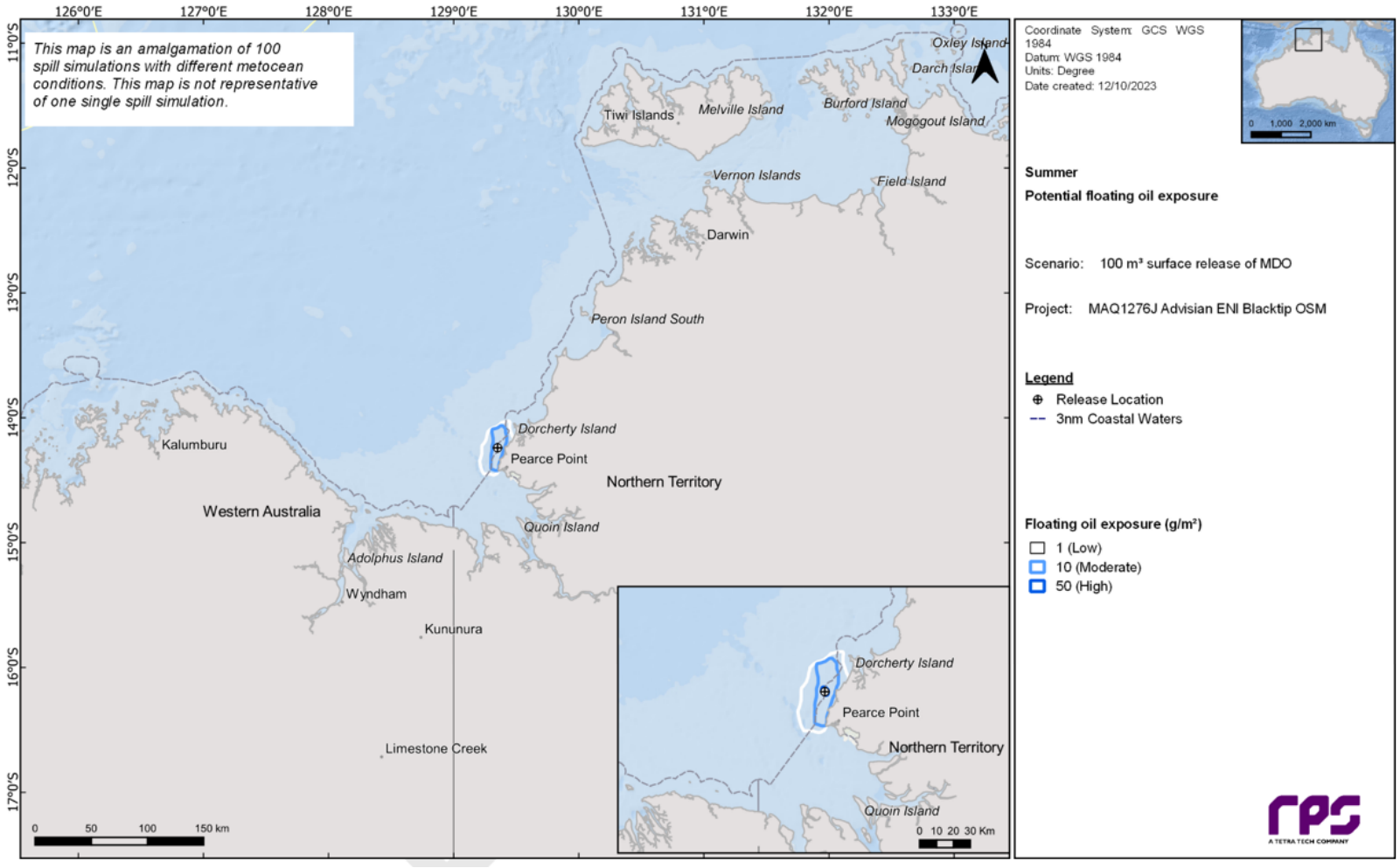

Figure 6-9: Zones of potential floating oil exposure from a surface vessel spill during summer conditions. The results were calculated from 100 spill simulations

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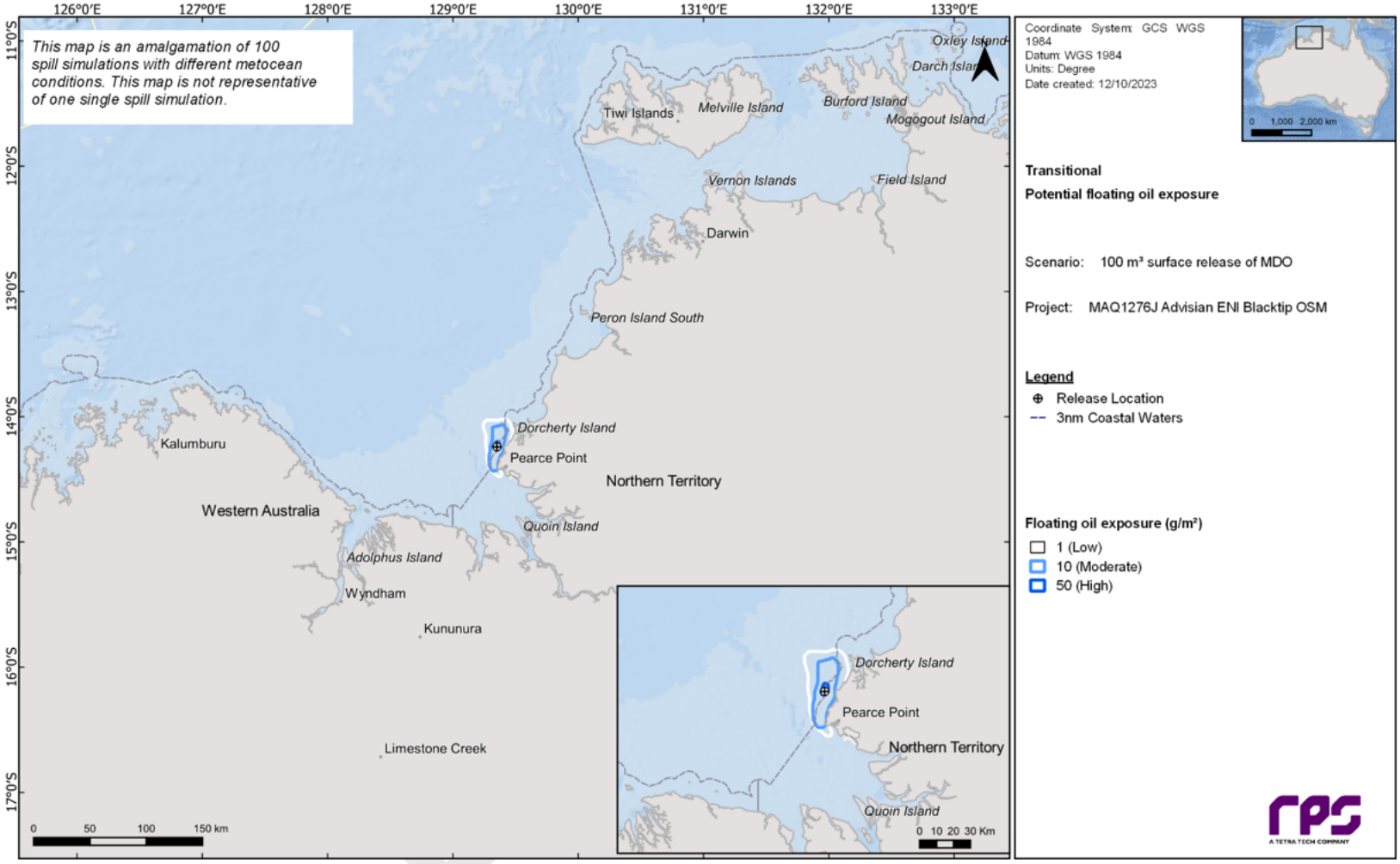

Figure 6-10: Zones of potential floating oil exposure from a surface vessel spill during transitional conditions. The results were calculated from 100 spill simulations

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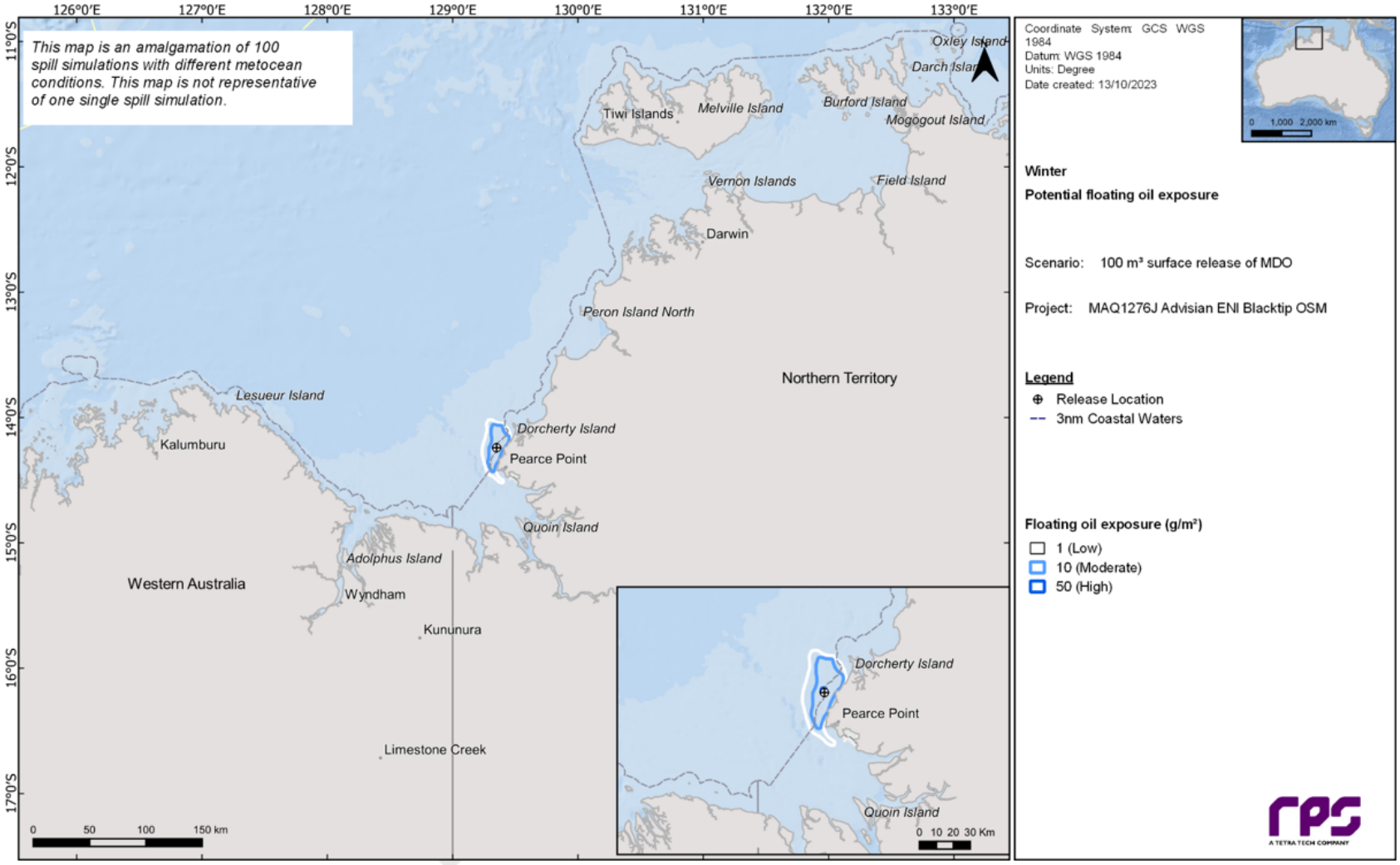

Figure 6-11: Zones of potential floating oil exposure from a surface vessel spill during winter conditions. The results were calculated from 100 spill simulations

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Shoreline Hydrocarbon

Table 6-10 summarises the predicted hydrocarbon accumulation on any shoreline during each season. The highest probability at the 10g/m^2 threshold was during summer conditions at 81% and the minimum time before the hydrocarbon had reached any shoreline was 5 hours during summer and transitional seasons. The maximum volume ashore was 46m^3 during summer.

Table 6-18 to Table 6-20 summarise the hydrocarbon accumulation on shoreline sectors during each season. The highest probability of accumulation at the 10g/m^2 threshold during summer, transitional and winter conditions was forecast for Thamarrurr immediately adjacent to the release location with probabilities of 57%, 46% and 16% during summer, transitional and winter, respectively. The absolute maximum volume of hydrocarbon ashore was forecast for Thamarrurr at 46m^3 during summer.

The quickest time before oil had reached the shorelines at the 10g/m^2 threshold was 5 hours during summer and transitional for the Thamarrurr coast.

The maximum potential shoreline loading for each season are presented in Figure 6-12 to Figure 6-14.

Table 6-17: Summary of oil accumulation on any shoreline from a surface vessel spill during each season. Results were calculated from 100 spill simulations per season

Shoreline Statistics	Summer	Transitional	Winter
Probability of accumulation on any shoreline (%) at or above the 10 g/m^2 threshold	81	56	24
Absolute minimum time before oil ashore (hours) at or above the 10 g/m^2 threshold	5	5	12
Maximum volume of hydrocarbons ashore (m^3)	46	44	37
Average volume of hydrocarbons ashore (m^3)	4.6	4.6	2.0
Maximum length of the shoreline at 10 g/m^2 (km)	15	16	14
Average shoreline length (km) at 10 g/m^2 (km)	5.1	4.5	1.3
Maximum length of the shoreline at 100 g/m^2 (km)	7	6	6
Average shoreline length (km) at 100 g/m^2 (km)	0.8	0.9	0.3
Maximum length of the shoreline at 1,000 g/m^2 (km)	2	2	1
Average shoreline length (km) at 1,000 g/m^2 (km)	<0.1	<0.1	<0.1

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Table 6-18: Summary of oil accumulation on any shoreline from a surface vessel spill during each season. Results were calculated from 100 spill simulations per season

Shoreline sector	Maximum probability of shoreline accumulation (%) at			Minimum time before shoreline accumulation (hours) at			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline accumulation (km) at			Maximum length of shoreline accumulation (km) at		
	≥ 10 g/m²	≥ 100 g/m²	≥ 1,000 g/m²	≥ 10 g/m²	≥ 100 g/m²	≥ 1,000 g/m²	Mean	Peak	Mean	Peak	≥ 10 g/m²	≥ 100 g/m²	≥ 1,000 g/m²	≥ 10 g/m²	≥ 100 g/m²	≥ 1,000 g/m²
Dorcherty Island	19	–	–	37	–	–	6.2	73	0.2	2.3	0.4	–	–	6	–	–
Thamarrurr	57	11	1	5	7	17	62	1,217	4.4	46	4.8	0.8	<0.1	14	7	2
Victoria Daly	1	–	–	342	–	–	0.4	13	<0.1	0.6	<0.1	–	–	1	–	–

Table 6-19: Summary of oil accumulation on any shoreline from a surface vessel spill during each season. Results were calculated from 100 spill simulations per season

Shoreline sector	Maximum probability of shoreline accumulation (%) at			Minimum time before shoreline accumulation (hours) at			Load on shoreline (g/m^2)		Volume on shoreline (m^3)		Mean length of shoreline accumulation (km) at			Maximum length of shoreline accumulation (km) at		
	≥ 10 g/m²	≥ 100 g/m²	≥ 1,000 g/m²	≥ 10 g/m²	≥ 100 g/m²	≥ 1,000 g/m²	Mean	Peak	Mean	Peak	≥ 10 g/m²	≥ 100 g/m²	≥ 1,000 g/m²	≥ 10 g/m²	≥ 100 g/m²	≥ 1,000 g/m²
Dorcherty Island	20	1	–	30	31	–	11	552	0.3	12	0.5	<0.1	–	13	2	–
Thamarrurr	46	18	2	5	6	16	76	2,083	4.3	44	4.1	0.9	<0.1	16	6	2
Victoria Daly	1	–	–	374	–	–	0.3	17	<0.1	0.4	<0.1	–	–	1	–	–

Table 6-20: Summary of oil accumulation on any shoreline from a surface vessel spill during each season. Results were calculated from 100 spill simulations per season

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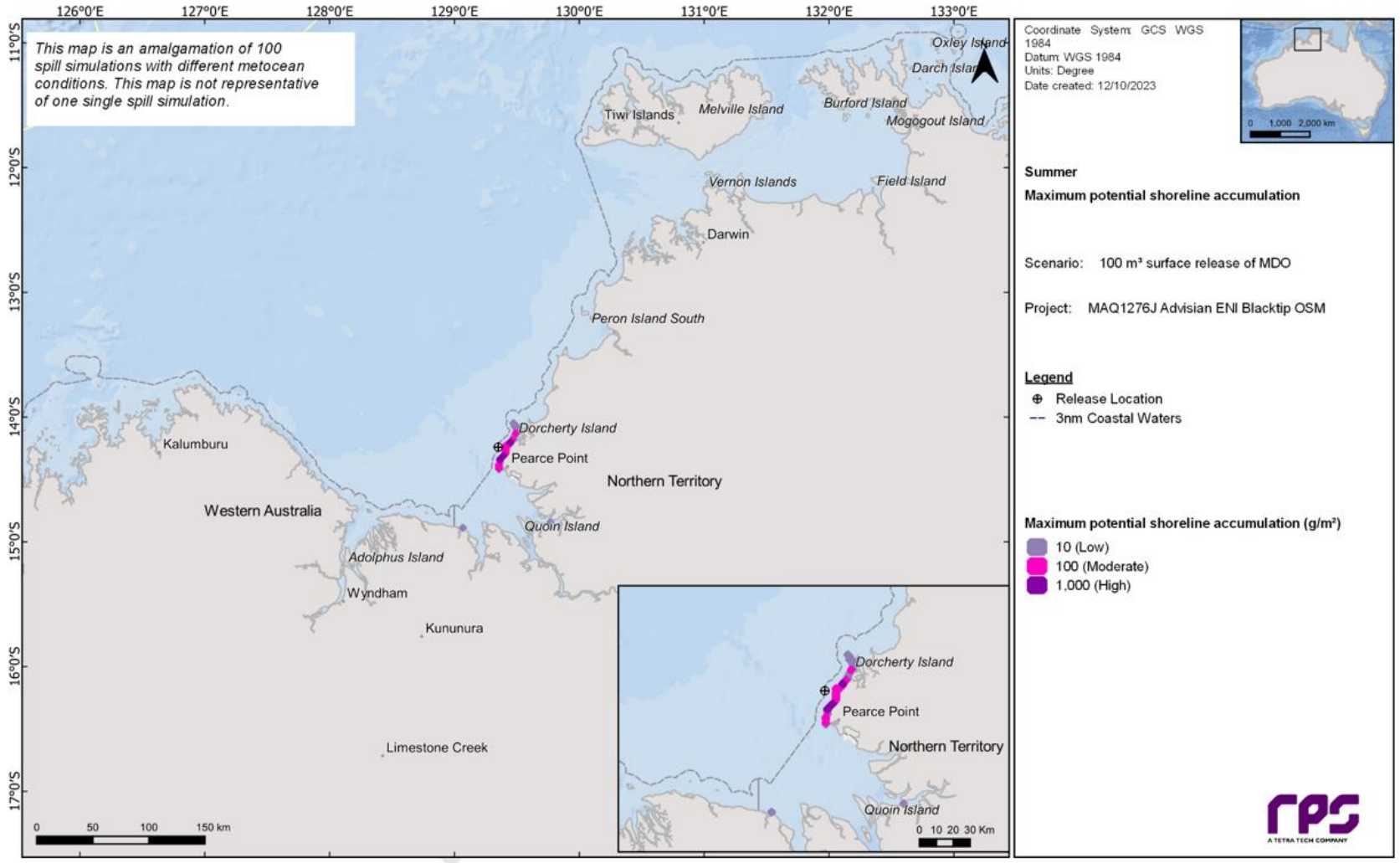

Figure 6-12: Maximum potential shoreline loading from a surface vessel spill during summer conditions. The results were calculated from 100 spill simulations

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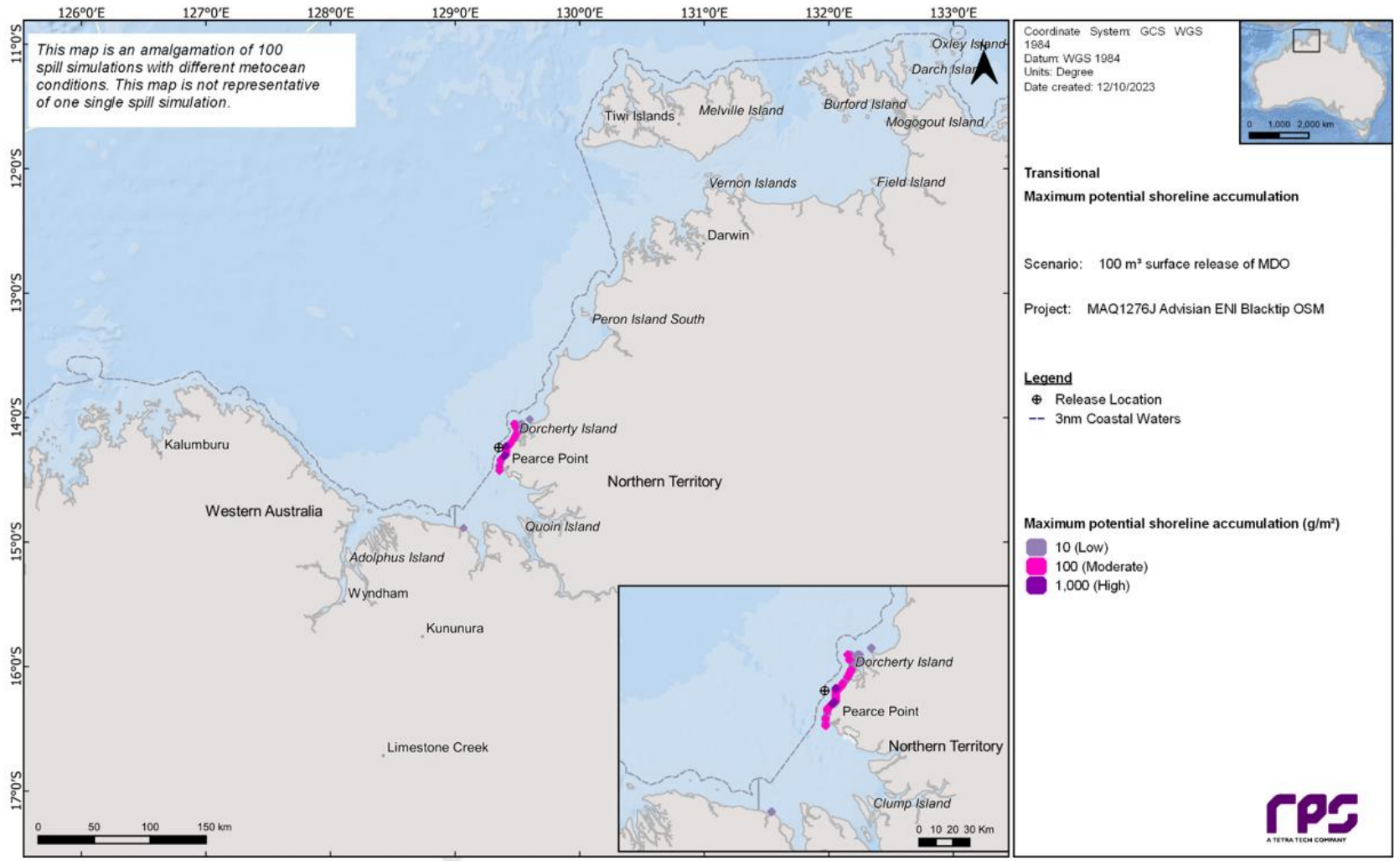

Figure 6-13: Maximum potential shoreline loading from a surface vessel spill during transitional conditions. The results were calculated from 100 spill simulations

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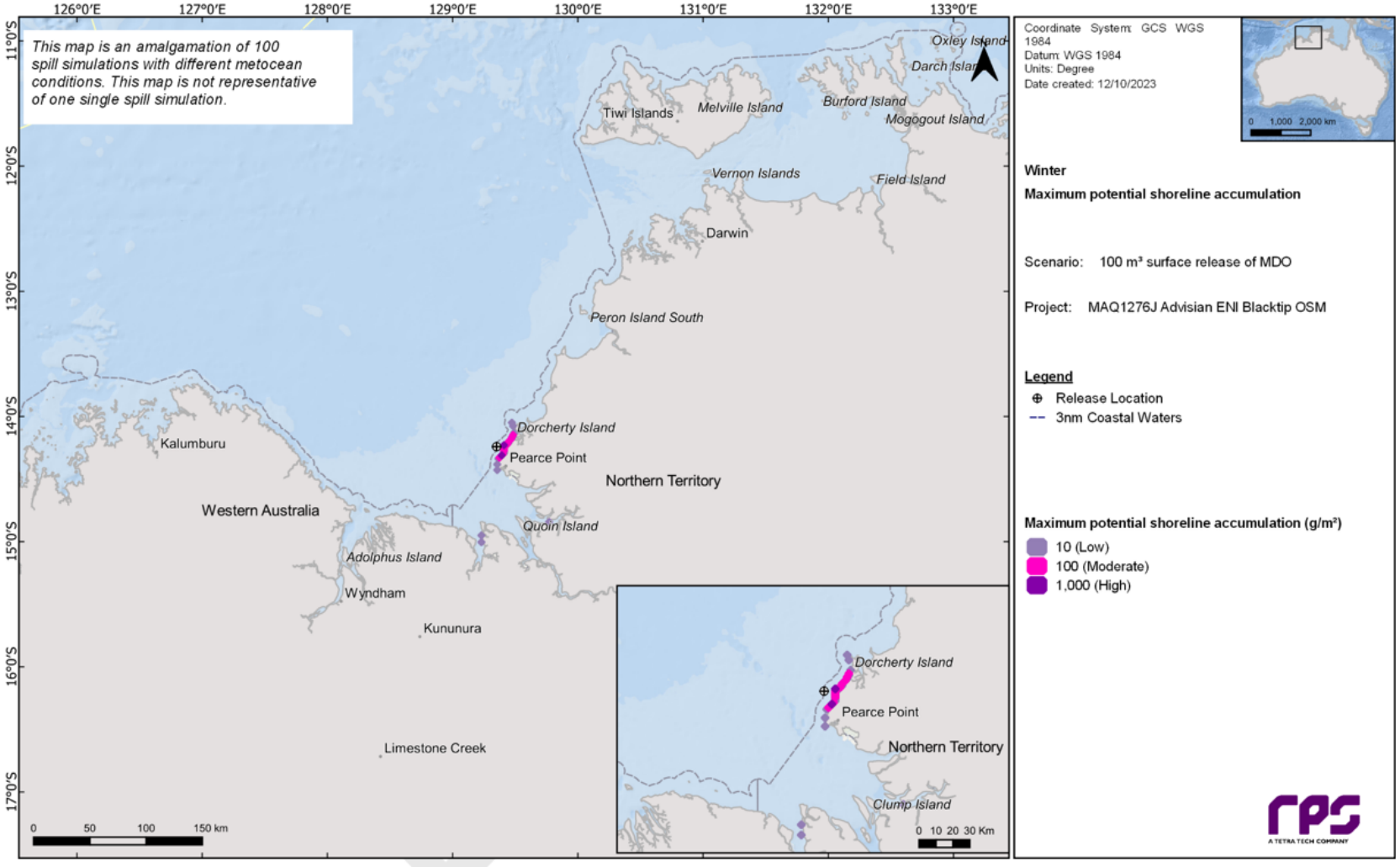

Figure 6-14: Maximum potential shoreline loading from a surface vessel spill during winter conditions. The results were calculated from 100 spill simulations

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Entrained Hydrocarbon

Table 6-21 summarises the maximum distances from the release location to entrained hydrocarbon thresholds for each season. Concentrations exceeding 10 ppb may potentially occur 176km from the release location, with the distance reducing to 67 km as the threshold increases to 100ppb.

Table 6-22 summarises the predicted exposure to receptors (or above receptors in the water column) for each season. The Darwin Coastal and Thamarrurr nearshore waters both recorded the same highest probabilities of exposure at concentrations exceeding 10 and 100ppb for summer (87% and 56%), transitional (64% and 26%) and winter (25% and 11%) conditions.

The quickest time for exposure at, or above, 100ppb was 4 hours for the Darwin Coastal IBRA and Thamarrurr nearshore waters and Cambridge-Bonaparte IMCRA during summer, and the Cambridge-Bonaparte IMCRA during transitional and winter conditions.

The highest concentration of entrained hydrocarbons was 2,150ppb predicted at the Cambridge-Bonaparte IMCRA during winter conditions.

Figure 6-15 to Figure 6-17 present the entrained hydrocarbon exposure zones for each season.

The entrained hydrocarbons above 10ppb were shown to occur to a depth of approximately 20m approaching the seafloor.

Table 6-21: Maximum distances from the release location to entrained hydrocarbon exposure thresholds from a surface vessel spill during each season. Results were calculated from 100 spill simulations per season

Season	Distance and direction travelled	Entrained hydrocarbon exposure thresholds	
		10 ppb	100 ppb
Summer	Maximum distance (km) from release location	103	67
	Direction	South	Northeast
Transitional	Maximum distance (km) from release location	154	46
	Direction	West	South
Winter	Maximum distance (km) from release location	176	42
	Direction	West	South

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Table 6-22: Summary of the entrained hydrocarbon exposure to receptors from a surface vessel spill during each season. Results were calculated from 100 spill simulations per season

Receptor	Summer					Transitional					Winter				
	Highest entrained concentration (ppb)	Probability (%) entrained hydrocarbon exposure at		Minimum time (hours) before entrained hydrocarbon exposure at		Highest entrained concentration (ppb)	Probability (%) entrained hydrocarbon exposure at		Minimum time (hours) before entrained hydrocarbon exposure at		Highest entrained concentration (ppb)	Probability (%) entrained hydrocarbon exposure at		Minimum time (hours) before entrained hydrocarbon exposure at	
		10 ppb	100 ppb	10 ppb	100 ppb		10 ppb	100 ppb	10 ppb	100 ppb		10 ppb	100 ppb	10 ppb	100 ppb
Darwin Coastal	1482	87	56	4	4	644	64	26	4	5	510	25	11	6	10
Keep	34	2	–	139	–	20	6	–	120	–	41	4	–	125	–
Bonaparte Gulf	14	2	<1	239	–	35	9	–	149	–	48	9	–	131	–
Cambridge-Bonaparte	2016	32	13	4	4	1,276	55	20	3	4	2,150	83	47	4	4
Carbonate bank and terrace system of the Sahul Shelf	–	–	–	–	–	16	2	–	324	–	15	2	–	340	–
Clump Island	15	1	–	248	–	14	2	–	164	–	29	2	–	125	–
Daly	18	2	–	321	–	15	1	–	450	–	–	–	–	–	–
Dorcherty Island	249	80	21	30	55	172	53	12	31	31	116	15	1	51	109
Quoin Island	-	-	-	-	-	11	1	-	163	-	16	2	-	136	-

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Receptor	Summer					Transitional					Winter				
	Highest entrained concentration (ppb)	Probability (%) entrained hydrocarbon exposure at		Minimum time (hours) before entrained hydrocarbon exposure at		Highest entrained concentration (ppb)	Probability (%) entrained hydrocarbon exposure at		Minimum time (hours) before entrained hydrocarbon exposure at		Highest entrained concentration (ppb)	Probability (%) entrained hydrocarbon exposure at		Minimum time (hours) before entrained hydrocarbon exposure at	
		10 ppb	100 ppb	10 ppb	100 ppb		10 ppb	100 ppb	10 ppb	100 ppb		10 ppb	100 ppb	10 ppb	100 ppb
Thamarrurr	1482	87	56	4	4	644	64	26	4	5	510	25	11	6	10
Turtle Point	-	-	-	-	-	14	3	-	264	-	14	2	-	211	-
Victoria Daly	24	1	-	271	-	20	6	-	288	-	41	4	-	142	-
Whale Flat	34	2	-	139	-	13	3	-	120	-	20	2	-	125	-
Wyndham-East Kimberley	-	-	-	-	-	15	1	-	349	-	13	2	-	583	-
Emu Reefs	161	2	1	66	66	-	-	-	-	-	-	-	-	-	-

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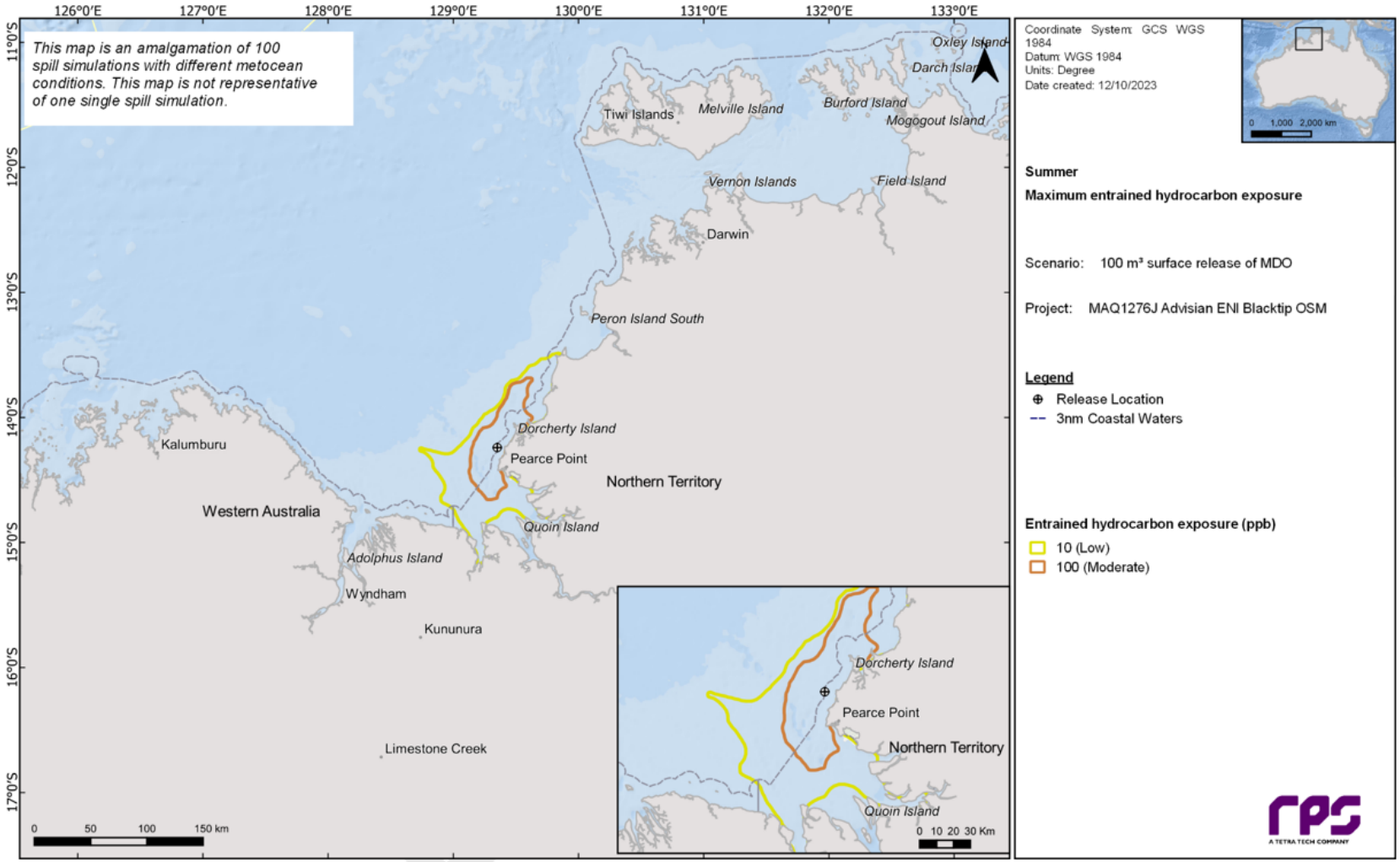

Figure 6-15: Predicted zones of entrained hydrocarbon exposure from a surface vessel spill during summer conditions. The results were calculated from 100 spill simulations

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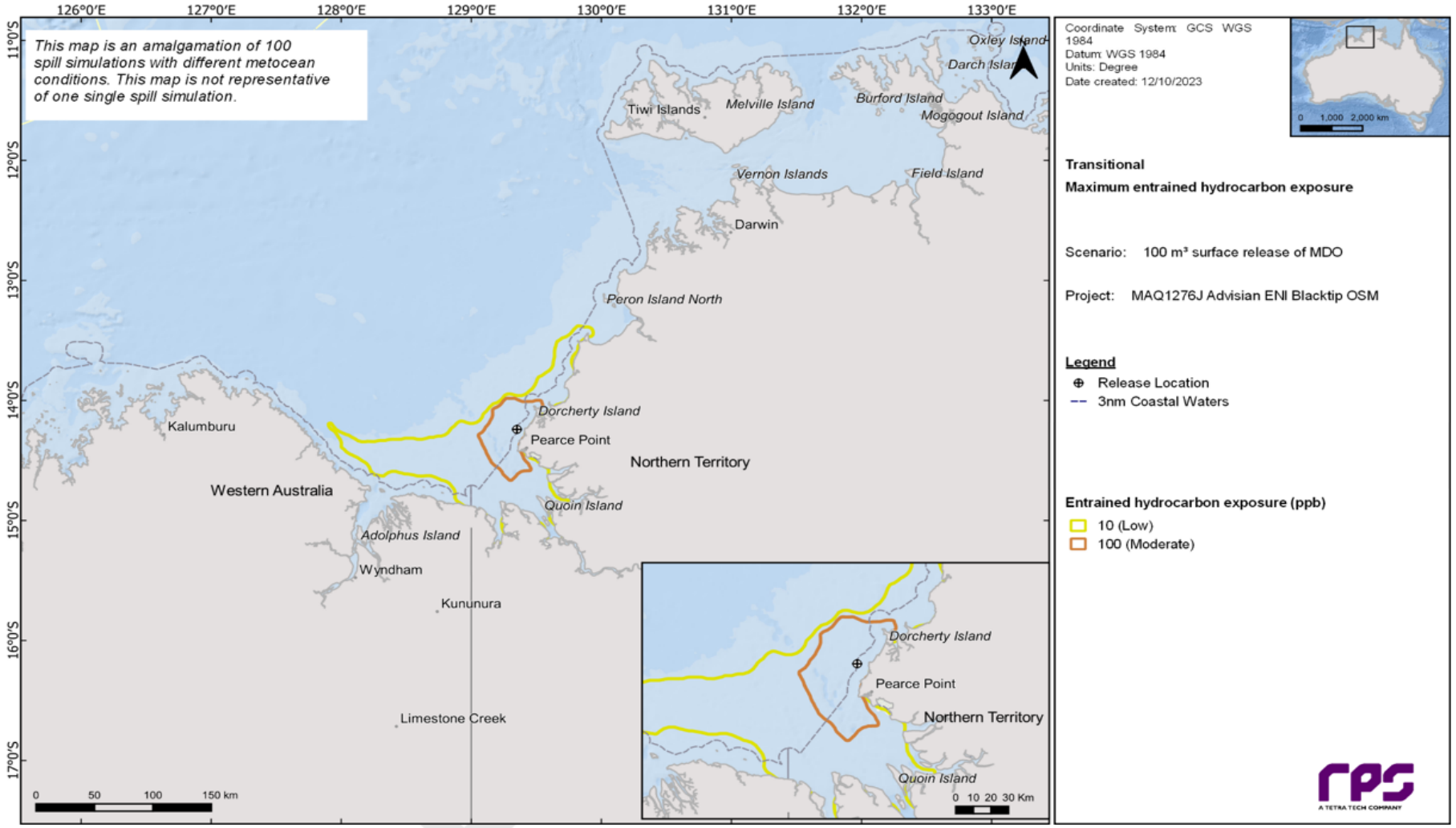

Figure 6-16: Predicted zones of entrained hydrocarbon exposure from a surface vessel spill during summer conditions. The results were calculated from 100 spill simulations

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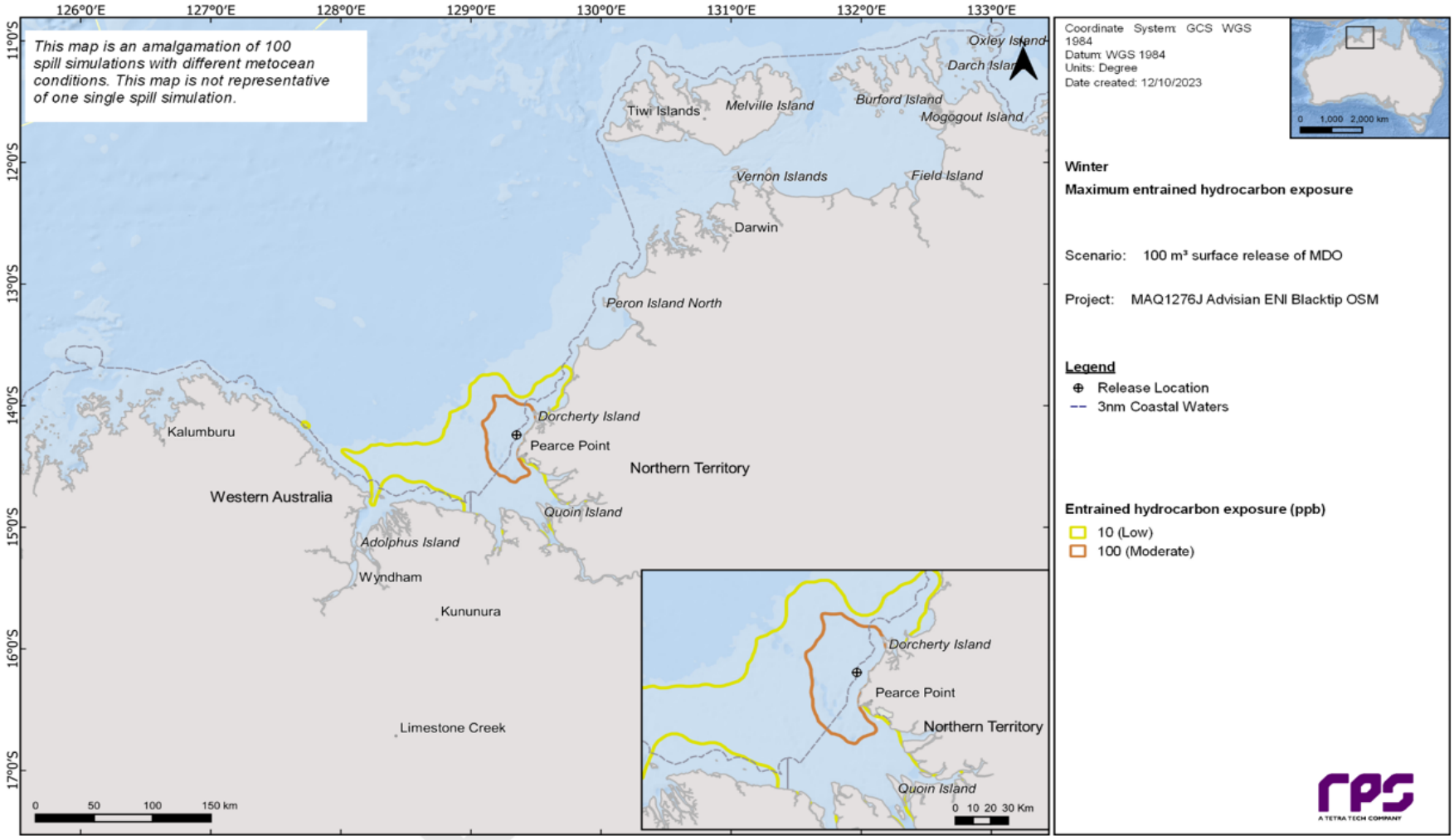

Figure 6-17: Predicted zones of entrained hydrocarbon exposure from a surface vessel spill during winter conditions. The results were calculated from 100 spill simulations.

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Dissolved Aromatic Hydrocarbons

Table 6-23 summarises the maximum distances from the release location to dissolved hydrocarbons exposure thresholds. Concentrations exceeding 10ppb may potentially occur 25 km from the release location. No exposure was predicted as the threshold increases to 50ppb and 400ppb, respectively.

Figure 6-18 to Figure 6-20 present the dissolved hydrocarbon exposure zones during each season.

Cross-sectional transects (north-south and east-west) of the maximum dissolved hydrocarbons in the vicinity of the release site are presented in Figure 6-18 to Figure 6-20. The dissolved hydrocarbons above 10ppb were shown to occur to a depth up to 25m approaching the seafloor.

Table 6-23: Maximum distances from the release location to dissolved hydrocarbon exposure thresholds from a surface vessel spill during each season. Results were calculated from 100 spill simulations per season

Season	Distance and direction travelled	Entrained hydrocarbon exposure thresholds		
		10 ppb	50 ppb	400 ppb
Summer	Maximum distance (km) from release location	25	-	-
	Direction	South	-	-
Transitional	Maximum distance (km) from release location	21	-	-
	Direction	North	-	-
Winter	Maximum distance (km) from release location	24	-	-
	Direction	South	-	-

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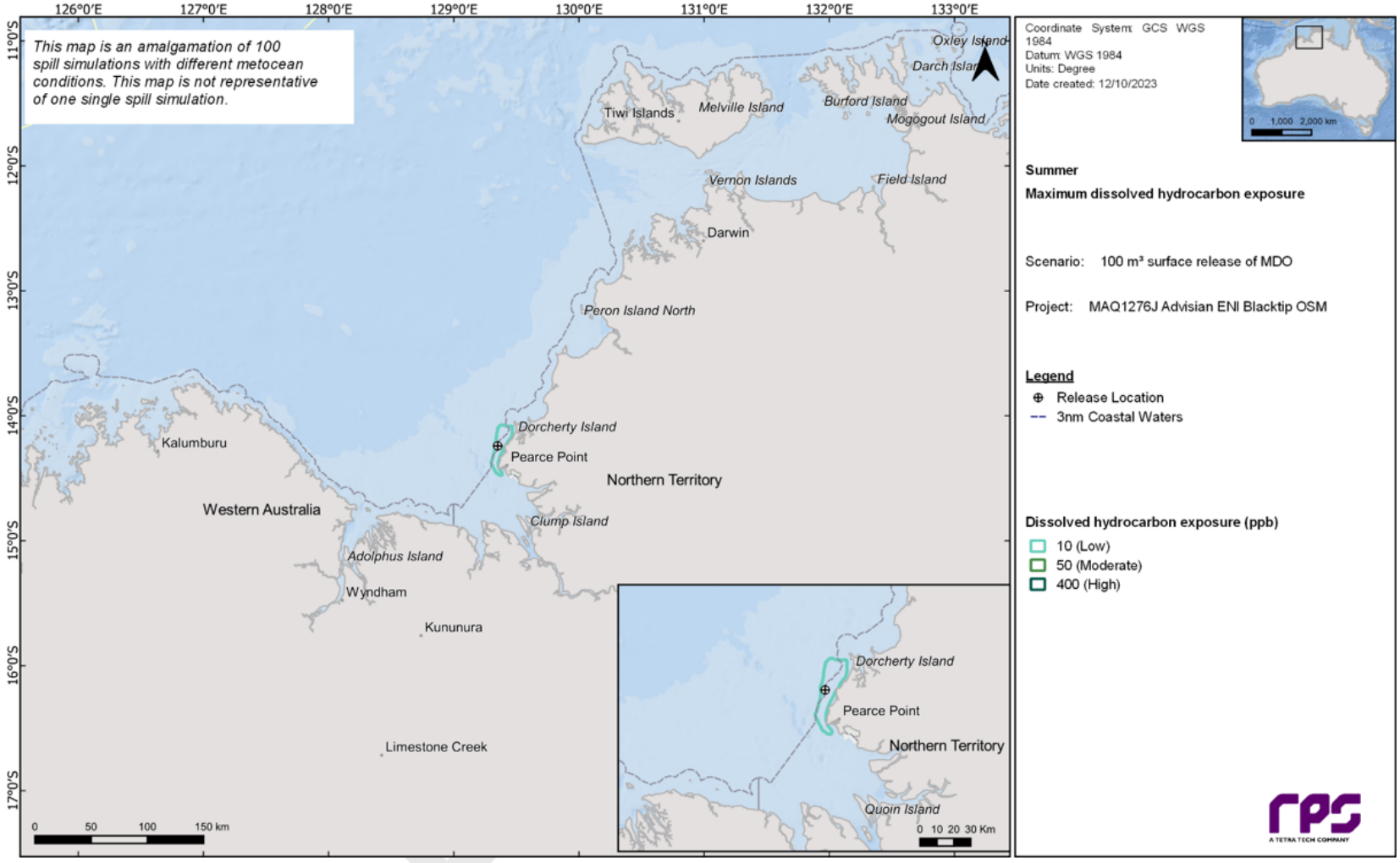

Figure 6-18: Predicted zones of dissolved hydrocarbon exposure from a surface vessel spill during summer conditions. The results were calculated from 100 spill simulations

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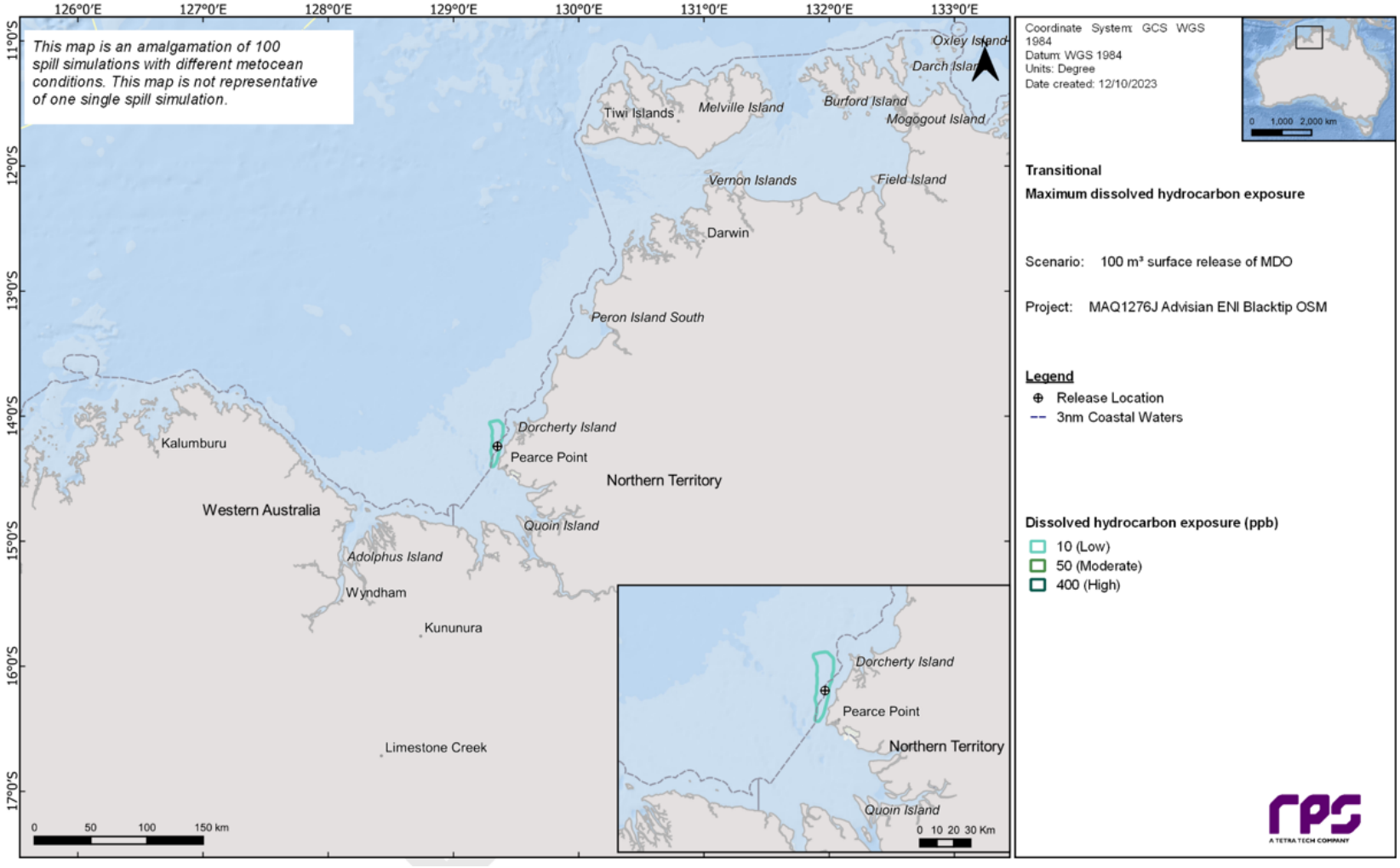

Figure 6-19: Predicted zones of dissolved hydrocarbon exposure from a surface vessel spill during transitional conditions. The results were calculated from 100 spill simulations

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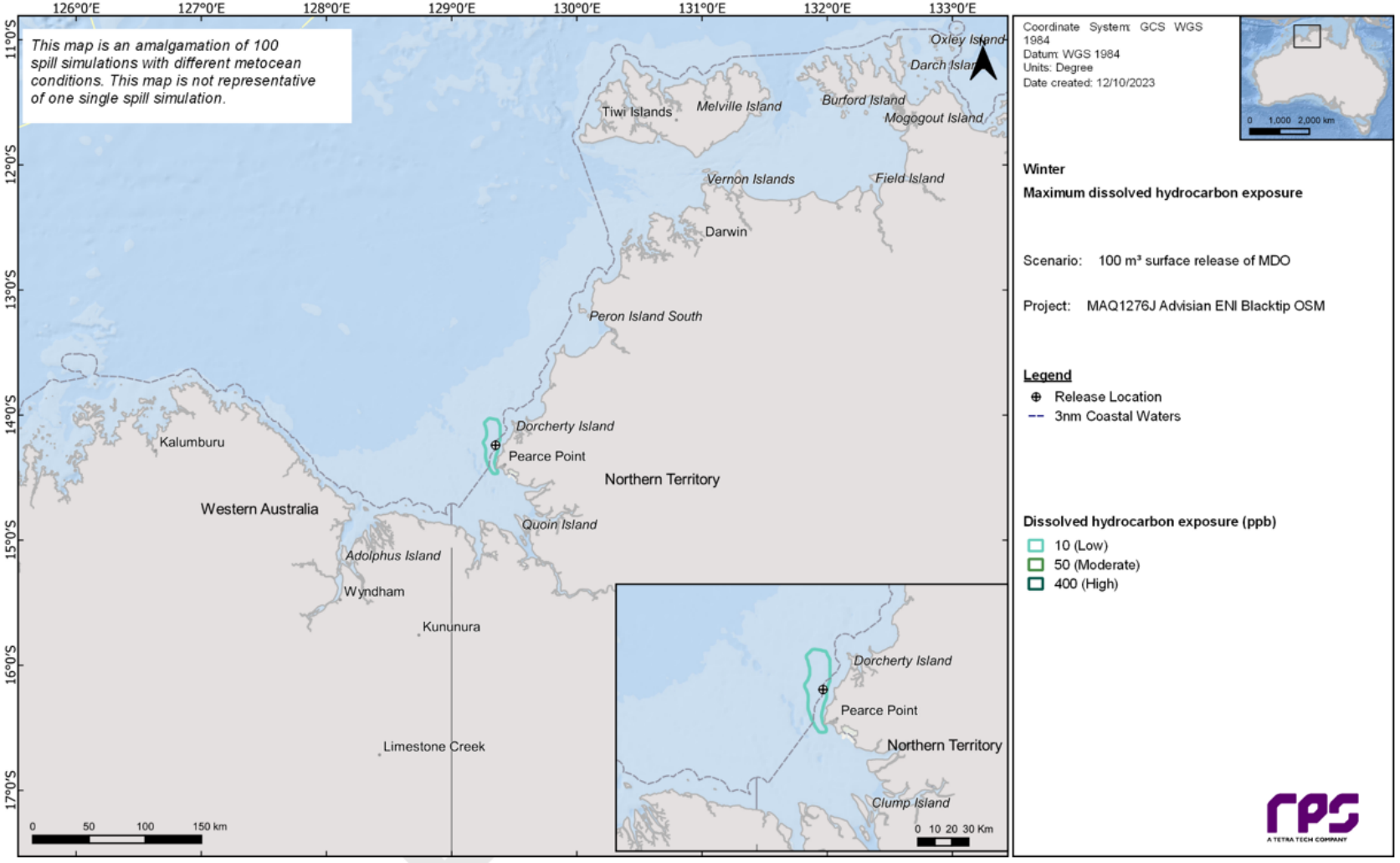

Figure 6-20: Predicted zones of dissolved hydrocarbon exposure from a surface vessel spill during winter conditions. The results were calculated from 100 spill simulations

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7. NET ENVIRONMENTAL BENEFIT ANALYSIS

7.1 Pre-operational NEBA

A pre-operational NEBA has been conducted to assess the net environmental benefit of different response strategies for spill at the Blacktip facilities. Strategy identification is based on strategies which have been implemented in the past or considered to be good industry practice

Table 7.1 was used to determine the net benefit of each response strategy and presents an evaluation on the implementation of these strategies based on their suitability for the spill scenarios identified for the Blacktip facilities (refer Section 6.1).

The key considerations taken into account in the assessment were:

- properties and weathering profile of the Blacktip condensate and MGO/MDO
- nature and scale of the WCSS
- safety and environmental risks and impacts involved with the response.

Based on the identified spill risks for the Blacktip facilities, the available oil spill response strategies have been adopted or rejected through assessment of hydrocarbon type and WCSS, as summarised in Table 7.1 below.

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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 there are no wellheads on the seabed. Subsea intervention operations are therefore not applicable.	Blacktip condensate	Reject
			MDO	N/A
	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 are located on the WHP and are therefore surface wellheads. All equipment listed as Subsea First Response Toolkit (SFRT) cannot be used for a loss of well control response. In the event that the WHP collapses and there is an uncontrolled subsurface release the well will have no wellhead and no BOP, hydrocarbons will be flowing through an open hole via the conductor on the seabed. Therefore the capping tack is able to attach and seal.	Blacktip condensate	Reject
			MDO	N/A
	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 are located on the WHP and are therefore surface wellheads. The capping stack is not suitable for use above sea level. In the event that the WHP collapses and the there is an uncontrolled subsurface release the well will have no wellhead (this would have been lost during platform collapse) and hydrocarbons 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 top of a BOP). This will not be available in the event that the WHP collapses, therefore the use of the capping stack is not applicable.	Blacktip condensate	Reject
			MDO	N/A
	Drilling a relief well	Applicable to all loss of well control, including:	Blacktip condensate	Adopt

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Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
		• Loss of well control during production operations wells resulting in a long-term (74-day) uncontrolled surface release of Blacktip condensate • Loss of well control during 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 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.	MDO	N/A
	Vessel SOPEP.	Applicable to MDO spills from vessels only. The SOPEP is the procedure for responding to a vessel spills.	Blacktip condensate	N/A
			MDO	Adopt
Monitor and evaluate	Monitor and evaluate is used to predict and monitor the trajectory and fate of the spill, to determine the effectiveness of response strategies and to identify and report on any potential/actual contacts to flora, that occurs.	Applicable to all spill scenarios. 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 / loss 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.	Blacktip condensate	Adopt
			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
			MDO	N/A
Surface chemical dispersion	Chemical dispersant is applied to break down the hydrocarbons and allow/enhance dispersion into the	MDO and condensates are not conducive to chemical dispersion due to rapid evaporation and low surface concentrations.	Blacktip condensate	Reject

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Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
	water column, thereby preventing/reducing potential shoreline contact and increasing biodegradation.	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).	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.	MDO and condensates are not conducive to physical dispersion due to rapid evaporation and low surface concentrations. Physical dispersion is typically only effective on surface oil concentrations >50 g/m^2. Surface hydrocarbons in the event of a well-blowout are only expected to exceed 10 g/m² in the immediate vicinity of the well for a very short period. 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
			MDO	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.	MDO and condensates are generally not conducive to containment and recovery strategies due to their rapid evaporation and low surface concentrations. Containment and recovery is effective on oil concentrations >50 g/m^2. Surface oil concentrations from a well blowout of Blacktip condensate is not predicted to exceed 10g/m^2 and 25g/m^2 surface oil thresholds at probabilities greater than 10% and 1%, respectively. Any exceedance is in the immediate vicinity of the well. Containment and recovery is therefore not effective. Floating oil concentrations from other releases are not predicted to exceed 10g/m^2 and 25g/m^2.	Blacktip condensate	Reject
			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	MDO and condensates are generally not conducive to protection and deflection strategies due to their rapid evaporation and low surface concentrations.	Blacktip condensate	Reject

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Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
	provides increased opportunity for recovery activities.	Protection and deflection is effective on oil concentrations >10 g/m^2. Surface oil concentrations from a well blowout of Blacktip condensate is not predicted to exceed 10g/m^2 and 25g/m^2 surface oil thresholds at probabilities greater than 10% and 1%, respectively. Any exceedance is in the immediate vicinity of the well. Protection and deflection are therefore not effective. Floating oil concentrations from other releases are not predicted to exceed 10g/m^2 and 25g/m^2.	MDO	Reject
Shoreline clean-up	During a spill response, clean-up of the oiled shorelines will be 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.	MDO and condensates are generally not conducive to shoreline clean-up strategies due to their rapid evaporation. There is not expected to be significant shoreline hydrocarbon from a worst-case loss of well control event at concentrations ≥100g/m^2, however as a precaution shoreline assessment / cleanup is included as a response strategy. Shoreline accumulation is not expected for other spill scenarios. Owens and Sergy (1994) define accumulated hydrocarbon <100g/m^2 to have an appearance of a stain on shorelines. French-McCay (2009) defines accumulated hydrocarbons ≥100g/m^2 to be the threshold that could impact the survival and reproductive capacity of benthic epifaunal invertebrates living in intertidal habitat. The ≥100g/m^2 concentration is not anticipated to be reached on the shorelines, however a shoreline assessment will inform whether a response is required. 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. Particularly during turtle or seabird nesting seasons there may be less impact not undertaking shoreline clean-up.	Blacktip condensate	Adopt
			MDO	Adopt

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Strategy	Description	Applicability and Environmental Benefit	Hydrocarbon type	Adopted/ Reject
Oiled wildlife response (OWR)	Oiled wildlife response aims at preventing wildlife from becoming oiled and/or the treatment of animals that do become oiled.	There is not expected to be significant shoreline hydrocarbon from a worst-spill event, however as a precaution OWR is included as a response strategy. Shorelines have been identified as having potential wildlife inhabiting them. Mobilisation of experts, trained work forces, facilities and equipment will then be needed to assess oiled wildlife and respond as required. 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. Significant offshore OWR is not applicable due to the low concentrations of surface hydrocarbons expected and hydrocarbon types.	Blacktip condensate	Adopt
			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. MDO and condensates are not conducive to in-situ burning due to rapid evaporation and low surface concentrations.	Blacktip condensate	Reject
			MDO	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. Response strategies are generally targeted to manage the surface oil impacts. For information on scientific monitoring refer to the Blacktip Operational and Scientific Monitoring Plan (000036_DV_PR.HSE.0860.000).	Blacktip condensate	Adopt
			MDO	Adopt

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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 the Control Agency , 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 Operational NEBA with specific consideration of:

- identified sensitivities within the area potentially affected as informed by trajectory modelling; and
- 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.

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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

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8. RESPONSE STRATEGIES

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

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.

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8.1 Source Control

Hydrocarbon	Applicability
Blacktip Condensate	✓
MDO/MGO	✓

8.1.1 Overview

The Eni SCRP (ENI-WOP-PL-001) includes the process for the IMT to mobilise resources for relief well drilling

The SCRP 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 Source Control Response. The IMT and CMT arrangements are detailed in the ENI-HSE-PL-034_03 IMP & ENI-HSE-PL-033_03 - CMP documents. The Eni Australia incident and crisis management adapts to the Australasian Inter-service Incident Management System (AIIMS system).

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 is comprised of three documents; a location specific Source Control Response Plan (ENI-WOP-PL-001), Source Control Emergency Response Plan prepared by WWC and Logistics Plan prepared by WWC. 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
- Loss of well control during production operations

The below sub-sections present the relief well drilling capability. An ALARP assessment of relief well capability has been completed in Appendix H.

SCRP and relief well planning

Eni have in place an overarching Source Control Response Plan (SCRP), which is structured to detail the control measures that Eni put in place for source control. The document is prepared in consultation with the Wild Well Control (WWC) who is the international service provider to all Eni business units.

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The overarching SCRP is comprised of three parts:

1. Logistics aspects of the source control (prepared by WWC), so called SCRP Logistics Plan
2. General arrangement of source control (prepared by WWC), so called General SCRP
3. Location-specific SCRP which addresses the location specific source control for the Blacktip production operations and drilling campaign, so called location-specific SCRP

The three above parts of the document will cover all the requirements stated in the APPEA Source Control Guideline, June 2021 (APPEA, 2021).

The General SCRP covers initial organization and operations, initial response actions, IMT & CMT organisations, equipment, resource overview and procedures and references. The SCRP Logistics Plan is mainly focused on mobilization and deployment of the capping stack (not relevant to this OPEP).

The location-specific SCRP covers:

- operation area information
- source control readiness exercise requirements
- rig information and positioning
- equipment, material, and supplier
- personnel
- dynamic well kill
- relief well drilling.

The flow path scenarios and assumptions in the relief well plan fulfill requirements stated in NORSOK-D010 for blowout and kill rate simulation studies. Of note, the relief well plan is prepared by Add Energy who is a Norwegian company and are the preferred training institute for the NORSOK D-010 trainings worldwide and have active involvement in updating the NORSOK D010 (well integrity) document.

MODU availability

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 (Eni have access to Riglogix which can provide all the information related to drilling rig position / operator / activity online) to ensure that the best available MODU option can be sourced for relief well drilling. The Blacktip project, as well as other offshore projects worldwide, is closely monitored by Eni Natural Resources who monitor MODU information including:

- rig name and type
- status
- current location
- BOP specifications
- technical capabilities (including working depth, drilling capability)
- safety case requirements

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Eni Natural Resources has a robust Emergency Response team in place with links to logistics for speedy mobilisation. In case of a well control incident, the Eni Natural Resources headquarters will be actively involved in the Emergency Response and will scout for the suitable rig worldwide. This is a continuous / live process with no pause in between Eni projects or Eni operations. Eni will initially look at sourcing a MODU with an approved Australian safety case from the nearest location to the blowout well.

In addition, Eni has exclusive access to the Saipem rigs which provides additional assurance on securing a MODU to drill a relief well.

Considering the MoU between the Australian operators and the support provided by Eni Natural Resources, Eni Australia is confident that a suitable MODU can be secured if the requirement arises. Eni Australia has an open and active communication with Fearnley Offshore who is a global rig broker and have worldwide knowledge on the availability of the rigs in Australasia as well as other parts of the globe. On identifying the suitable rig, the process of acquiring an Australian vessel safety case (if the MODU does not have one) will be immediately started to take advantage of the mobilisation time.

Equipment availability

Eni has purchased primary and backup equipment (wellhead, casing accessories, etc.). In case of tubular stock, three options are available; stockists with good level of tubular stocks on the ground, local operators and Eni global inventory. Eni Australia has a global contract with Tenaris who are global leaders in the provision of oilfield tubulars. In addition, Eni Australia receives frequent global inventory updates from Eni Natural Resources with regards to surplus materials from other Eni business units. The surplus materials list contains ample tubular inventory, covering well in excess of tubular requirement for one relief well.

Eni is part of the APPEA 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.

Personnel availability

Personnel requirement for source control are presented in Appendix G (Resourcing Plan).

To ensure personnel with specialist technical knowledge and experience are engaged throughout the relief well operations, Eni maintain a Contract and Equipment Access Agreement with WWC.

Eni Australia, with assistance from third party service providers, will arrange accommodation for newly mobilized personnel for both teams.

The quickest way to bring specialised personnel from abroad is to get online visa (eVisitor visa). This visa is for visiting or for business visitor purposes and is valid for up to three, six or 12 months. Whilst mobilisation occurs, active remote/virtual source control monitoring is in place from Eni HQ, implemented by the ER team in Milan.

Refer Section 5.6 for Source Control Team / IMT arrangement interface and rostering arrangements.

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Relief well drill times

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 APPEA Mutual Aid MoU as well as the corporate support in a global scale.

Mobilisation

The time to source and contract the MODU through the APPEA Mutual Aid 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 for MODU sourcing

Phase	Duration (days)
Initial survey	2
Secure the rig	10

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Phase	Duration (days)
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 500m around the WHP / MODU and taking into account the directional profile constraints, a minimum distance of 1,000m is initially selected in order to ensure that the MODU is outside the range of hydrocarbons. A distance of 1,500m 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 a 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 1.02SG.; this requires a minimum kill mud weight of 1.10SG.

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The most likely fracture strength of the 9 5/8" casing shoe is 1.50 SG. The kill mud weight therefore can be ranged between 1.1 and 1.5 SG. 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 SG. 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 APPEA 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.

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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**
SCRP and relief well planning	SCRP (including location specific SCRP) is developed in accordance with NORSOK-D010 and up to date during the drilling activities	Blacktip location-specific SCRP and Blacktip relief well plan.
	Source Control Personnel Resourcing Plan included within SCERP - identifies required position / roles for Source Control Team - describes personnel sourcing arrangements to assure resourcing capability	
MODU availability and tracking	Location specific SCRP will identify suitable MODU availability for relief well drilling	Blacktip location specific SCRP includes MODU availability for relief well. Acquiring the rig availability in the region and worldwide in 2 days via broker (such as Fearnley Offshore)
	MODU availability is continuously monitored prior to and during drilling to ensure that the best available MODU option can be sourced for relief well drilling	Relief well MODU capability requirement in location-specific SCRP Scouting the rig availability in the region and worldwide in 2 days.
Suitable relief well MODU identified prior to drilling	If no suitable MoU-MODUs are forecast to be in Australia during drilling, an MODU Mobilisation Plan is developed prior to spud, that: - Identifies suitable alternative MODU - Evaluates reactivation / Mobilisation Requirements, including tow and associated Safety Case and IMS approvals	MODU Mobilisation Plan (if required) identifies suitable MODU, and associated Safety Case requirements, importation / safety case requirements and anticipated timelines.

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SOURCE CONTROL		
EPO: Stop the release of hydrocarbons into the marine environment		
Control	**EPS**	**MC**
	- Demonstrates capability to meet SCERP timelines for relief well drilling	
Equipment availability	Contract maintained for provision of oilfield tubulars	Contract in place to access tubulars. Tubular inventory check with Eni Natural Resources in 1 day. Local stockist check in 2 days. Availability from other operators in 5 days (as per the MoU).
	Pre-Purchase relief well supplies (e.g., long lead equipment for a relief well drilling)	Backup equipment list check to be used for relief well. Confirmed ability (e.g., through contracts or emails) for accessing relief well supplies.
Personnel availability	Arrangements / MoU for source control emergency response personnel (including contract with WWC) are in place	Contract with WWC Agreement with AMOSC Access to Eni Natural Resources ER Team Access to pool of personnel via local contracts (Zenith & LPM) Access to other operators' personnel as per the MoU OSRL Associate Member Contract
Relief well drill times	MODU mobilised to site for relief well drilling within 27 days Note, the relief well plan is also finalised in this timeframe.	IAP documentation Response Time Model
	First well kill attempt completed within 74 days.	IAP documentation Response Time Model
	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	Signed Mutual Aid MoU in place for accessing rig for relief well drilling

8.2 Monitor and Evaluate

Hydrocarbon	Applicability
Blacktip Condensate	✓
MDO/MGO	✓

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8.2.1 Overview

The following sections summarise the key methods used, more detail is provided in the Blacktip OSMP (000036_DV_PR.HSE.0860.000_05) (operational monitoring programs 1 and 2 [OMP1 and OMP2]).

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, monitoring programs in the Blacktip OSMP (000036_DV_PR.HSE.0860.000) 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). OSRA utilises a Geographic Information System 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.

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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>.

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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

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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 IMT 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>

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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 Blacktip OSMP (000036_DV_PR.HSE.0860.000), 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 Offshore Services Australia and PHI.

Contact for aerial surveillance is provided below:

Company	Contact Details
Offshore Services Australia Truscott Operations	OSA.TSTOPS@chcheli.com +61 8 9161 4072
PHI	phibmeops@phi-int.com +61 8 9138 7719

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); and
- one aerial support base (Darwin airfield).

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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; and
- 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

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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

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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
	Satellite Imagery services available during response.	Contract with KSAT (satellite imagery provider) IAP documentation

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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 WA State/NT waters, WA DoT / NT DEPWS is the Control Agency. Shoreline clean-up will be directed by the Control Agency. Eni will provide support to the Control Agency which could include providing equipment, trained personnel and technical specialists. Note for the NT:

- TEMC may also act as Control Agency (refer Table 4.2).
- TEMC has gained extensive experience with remote area response operations and would strongly leverage this experience, including land access and working with the Local Councils.
- TEMC would also manage all aspects of acquisition and compliance with Aboriginal Areas Protection Authority (AAPA) certificates, at the time of the spill event.

As presented in Section 6.3, shoreline hydrocarbon accumulation may occur at discrete locations along the JBG coastlines. 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.

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.	Deploy from stockpile locations.	Deploy from various stockpile locations.

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

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	Time period from notification to mobilise to Blacktip		
	<24 hours	**48-72 hours**	**> 96 hours**
	Transport: Aircraft	Transport: Aircraft/truck/boat–optimum will be chosen. • Skimmers • Power Packs, Pumps • Sorbents, Pads and Booms • Waste Storage <10,000 L	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 Control Agency 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.

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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 DEPWS	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.
	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 WA DoT	Onsite within 5 days, or 24 hours prior to shoreline contact (if prolonged time to shoreline contact).

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Task	Outcome	Resources	Location	Resource owner	Minimum Standard
	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 NT DEPWS	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. Vessels may be used that have ceased other response activities (containment and recovery).	Darwin, NT Exmouth, WA	Eni – through vessel contracts	On site within 8 days.

Note: DBCA (inc. Kimberley Regional office) should be contacted as soon as practicable, in the event of a hydrocarbon spill that may result in imminent or actual impacts on all departmental interests, which includes wildlife and reserves managed under the Conservation and Land Management Act 1984 within WA : Contact details (08) 9219 9108 (DBCA State Duty Officer) *(08) 9195 5500 (Kimberley Regional office)*

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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 IMTL 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/Territory waters, WA DoT / NT DEPWS is the control agency for that portion of the response activity. Shoreline clean-up will be directed by the Control Agency.

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 Control Agency.

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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 as directed by the Control 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.

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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

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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

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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

The Control Agency 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.

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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.

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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 Traditional Owner Group land

Around 84% or 6,050km of the coastline of Northern Territory mainland is owned by 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. For the NT the TEMC would also manage all aspects of acquisition and compliance with Aboriginal Areas Protection Authority (AAPA) certificates, at the time of the spill event.

It is noted that the land along the coastline 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 YGP, 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 at Blacktip YGP. Formal contact with these groups should be made through the Thamarrurr Development Corporation.

For potential impact to other areas along the coastlines, the relevant Land Council should be contacted to identify the relevant Traditional Owner groups.

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.

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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 jellyfish; 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;
- Provide stinger suits, gloves & boots;
- All personnel to work in teams of greater than 2;
- All teams to carry a satellite phone; and
- 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

Volumes of accumulated hydrocarbons on shorelines are predicted to be low (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).

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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
	Unless directed otherwise by the designated Control Agency, a Heritage Advisor is consulted with if shoreline operations overlap with areas of cultural significance.	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 be selected to minimise disturbance to benthic habitats.	Detailed in IAP documentation

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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 (inc. Kimberley Regional office) should be contacted as soon as practicable, in the event of a hydrocarbon spill that may result in imminent or actual impacts on all departmental interests, which includes wildlife and reserves managed under the Conservation and Land Management Act 1984 within WA

Contact details: (08) 9219 9108 (DBCA State Duty Officer) (08) 9195 5500 (Kimberley Regional office). The region may also be contacted via email, at broome@dbca.wa.gov.au.

For WHP, SPM and wellhead releases, Eni are the Control Agency. In Commonwealth waters, DCCEEW 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/Territory waters WA DoT / NT DEPWS would be notified of the spill and would provide an advisory role to the Eni IMT. For spills moving from Commonwealth to State/Territory waters (cross-jurisdictional), WA DoT or NT DEPWS may assume position as the Control Agency responsibilities. Under that scenario, WA DBCA / NT Parks and Wildlife Commission would control oiled wildlife response across State/NT 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**
DBCA		NT Parks and Wildlife		DCCEEW	

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 WA 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.

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For NT waters, under the NT OSCP the managing the clean-up, care and rehabilitation of oiled wildlife is the responsibility of DEPWS. 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 Parks and Wildlife Commission 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.

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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.

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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.	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.
	Establish treatment or rehabilitation centre for oiled wildlife .	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
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.

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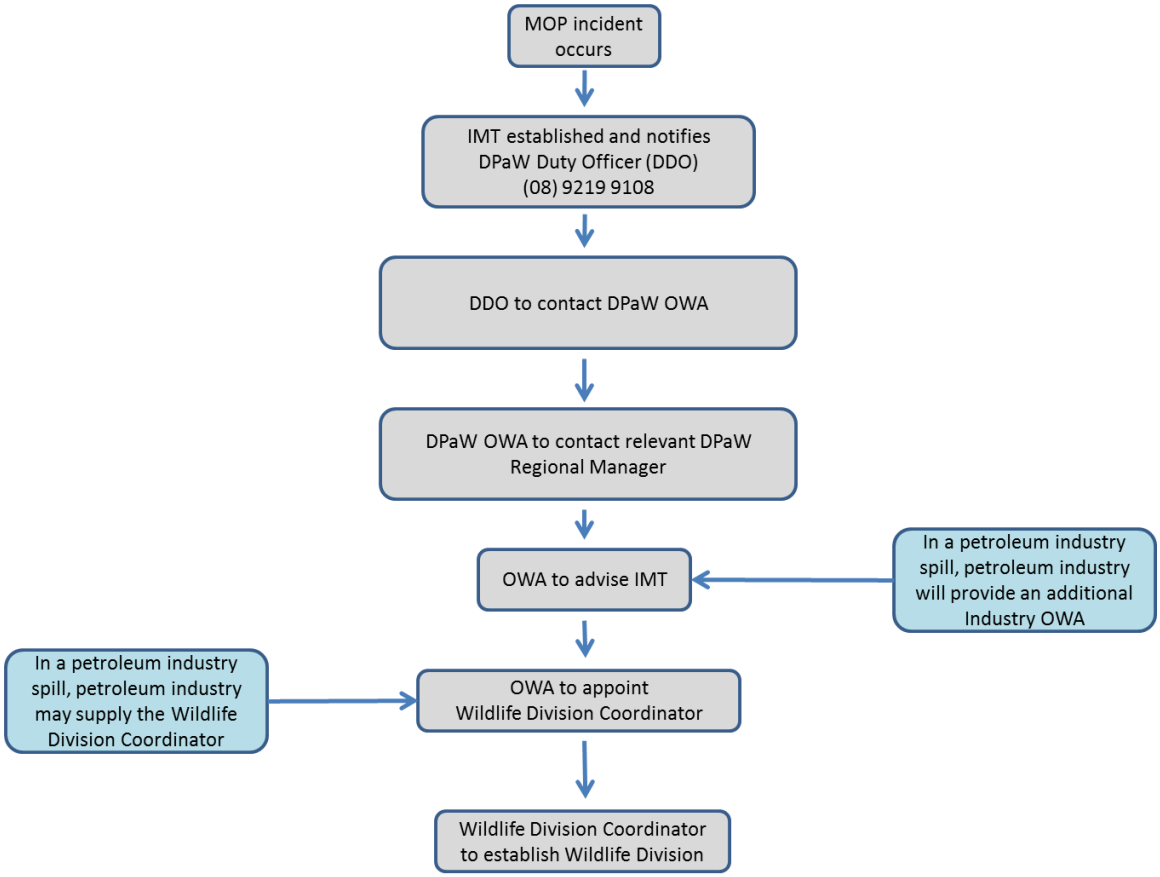
Activation of WAOWRP

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)

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Activation of NTOWRP

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

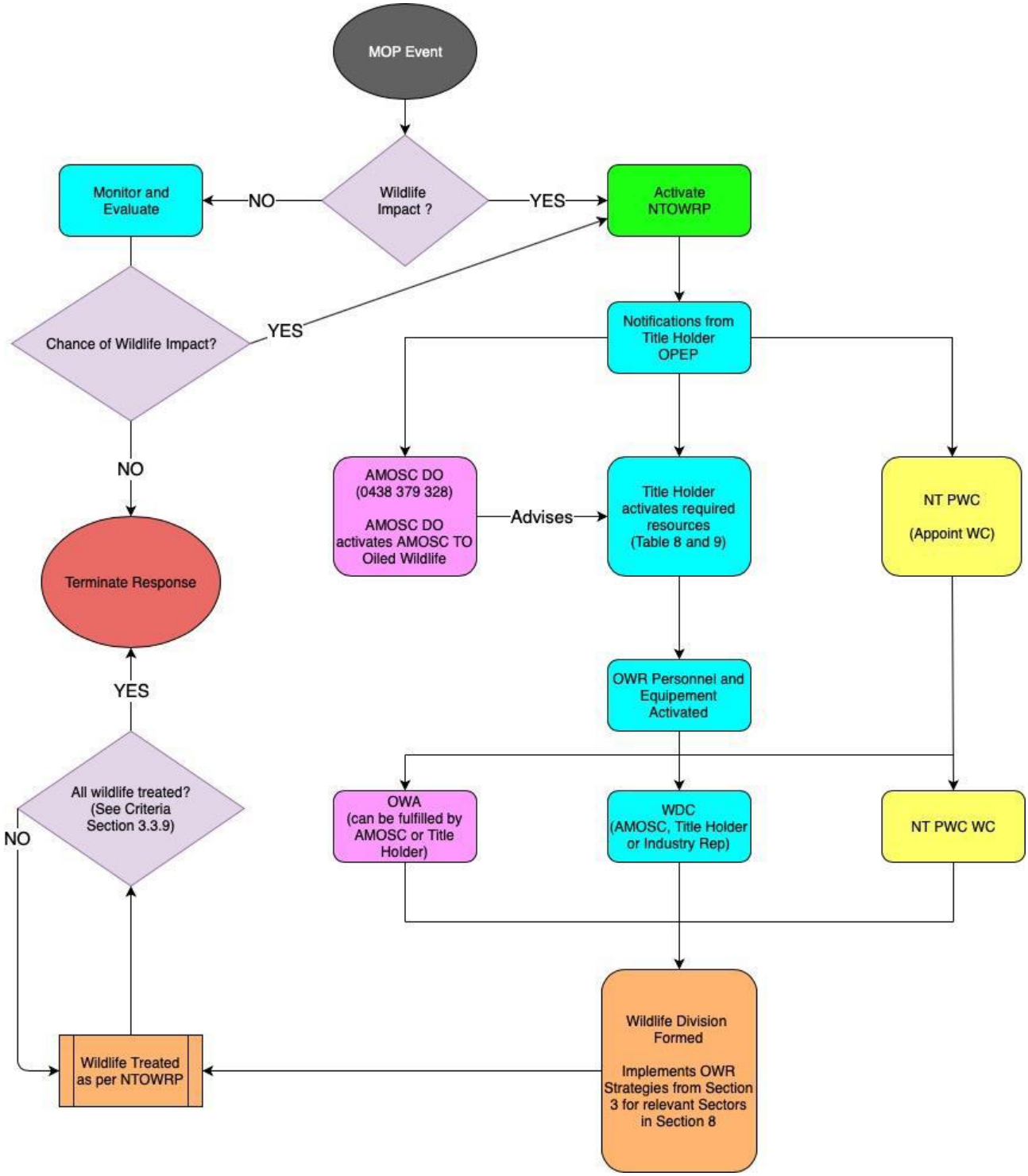

Figure 8.2: Activation of the NTOWRP (NTOWRP, v2.0, 2019)

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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.

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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.

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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.

Volumes of accumulated hydrocarbons on shorelines are predicted to be low (see Section 6.3). An extensive offshore oiled wildlife response is therefore not anticipated.

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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 DEPWS (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

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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

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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.

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Waste Type	Container	Handling	
	Large flexible bags/ containers	Offshore/onshore	Onshore should be loaded onto flat-bed trucks prior to filling.
	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.

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8.5.4 Response Required and Adequacy

Volumes of accumulated hydrocarbons on shorelines are predicted to be low (see Section 6.3). 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.

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8.6 Operational and Scientific Monitoring Program

Hydrocarbon	Applicability
Blacktip Condensate	✓
MDO/MGO	✓

Eni has prepared the Blacktip OSMP (000036_DV_PR.HSE.0860.000) for its activities in the JBG. The Blacktip OSMP (000036_DV_PR.HSE.0860.000) 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; and if required
- determine whether environmental performance outcomes have been achieved.

Refer to the Blacktip OSMP (000036_DV_PR.HSE.0860.000) for further details on the OSMP capability.

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 Blacktip OSMP (000036_DV_PR.HSE.0860.000).

8.6.2 Environmental Performance Outcomes, Environmental Performance Standards and Measurement Criteria

Refer to the Blacktip OSMP (000036_DV_PR.HSE.0860.000), Section 1.8.

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 (000036_DV_PR.HSE.0860.000).

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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 1Y and 4Y Eni drills 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					
IMTL	✓		✓	✓	
Planning Officer	✓	✓		✓	
Operations Officer	✓	✓		✓	
Logistics Officer	✓	R		✓	
Safety Officer	✓	R		✓	R
Liaison Officer	✓	R		✓	
Non IMT position					
HSEQ Manager	✓	✓	R	✓	
Operations Manager	✓	✓	R	✓	
Well Operations Manager	✓	✓	R	✓	
Emergency Co-ordinator	✓	✓	R	✓	R
HSE Advisor	✓	✓	R	✓	R
Environment Advisor	✓	✓	R	✓	✓

R = recommended

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

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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 DEPWS 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.

Verification of the IMT training and competency of personnel is included in Section 5.6.4.

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.

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- NT OSCP: State Response Team and NW Regional Response Team– Oil pollution response teams available to assist under the jurisdiction of the NT DEPWS .
- 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

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 1Y and 4Y Emergency Exercise Plan.

Eni maintains a high standard of oil spill response preparedness through:

- training Eni personnel, particularly those nominated to IMT or CMT (See Section 9.1);
- compliance with 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);
- conducting exercises and drills in accordance with the Eni 1Y and 4Y Emergency Exercise Plan; and
- completing ongoing audits to review that the above are being effective.

The HSEQ 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 is undertaken.

Testing will also ensure that the timings presented in the OPEP and SCRP are able to be met, that contracts are in place and contractors have maintained their response capabilities as per the contract.

Specific to the Blacktip activities the following exercises / tests occur (refer to Table 9.2):

- A level 2/3 desktop exercise in accordance with the Eni 1Y and 4Y drills program;

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- Testing of the OSMP (000036_DV_PR.HSE.0860.000_05), Source Control, OSR provider arrangements, specific response strategies in line with the 1Y and 4Y Emergency Exercise Plan; and
- When drilling is planned, an exercise is conducted to test the SCRP 2 months prior to the commencement of drilling into the reservoir and learnings are fed back into the SCRP and any associated subplans.
- One exercise with AMOSC every 2 years.

Testing is 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/exercise 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; and
- 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. The drill report will identify the action tracking register used to track improvement/actions.

Source control testing arrangements are formulated with reference to industry guidelines including the Australian Petroleum Production & Exploration Association (APPEA) Offshore Titleholders Source Control Guideline (June 2021) and the NOPSEMA Information Paper: Source Control Planning and Procedures IP1979 (June 2021).

Table 9.2 summarises the exercise and testing arrangements and objectives.

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Table 9.2: Testing arrangements plan and objectives

Arrangement	Schedule/frequency	Objective	Measurement criteria
Source Control			
Source control exercise – MODU availability	Ongoing basis (Eni have access to Riglogix which can provide all the information related to drilling rig position / operator / activity online), refer to Section 8.1.2.	Ensure that suitable MODU can be sourced to drill a relief well	MODU identified for relied well, including: • Name • Type • Location • Status
Source control exercise – SCRP and relief well plan test	Desktop exercise 2 months prior to drilling Annually during production operations involving Eni HQ	Ensure that the response arrangements are in place including: • Access to source control emergency response personnel (WWC within 72 hours) • Access to source control equipment • Access to relief well supplies (e.g., long lead equipment for a relief well drilling)	Exercise reports Learnings captured and actioned in a register Confirmation of equipment provision from service providers and mobilisation timeframes to meet SCRP requirements. Confirmation that sufficient WWC specialists are available within 72 hours to meet SCRP requirements. Confirmed ability (e.g., through contracts or emails) for accessing relief well supplies.
IMT			
Oil spill exercises (scenario specific)	The IMT will conduct annual oil spill exercise, using NOPSEMA accepted Eni OPEPs.	IMT exercise objectives will include the IMT's ability to: • identify and notify relevant stakeholders within timeframes specified in the OPEP • develop an incident action plan, including:	Eni 1Y and 4Y drills program Exercise reports

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Arrangement	Schedule/frequency	Objective	Measurement criteria
	Oil spill exercises will be scheduled in the Eni 1Y and 4Y drills program.	– appropriate use of data to inform response decision making – identification of sensitive receptors and protection priorities – determine secondary response strategies – activation of relevant operational and scientific monitoring programs. • Activate mechanisms/arrangements within timeframes specified in the OPEP and OSMP	Confirmation of equipment and response personnel provision from service providers
Other			
National Plan Exercises or State / Territory exercises	As determined by AMSA and/or State / Territory exercises	Participate as required to ensure alignment between National/State/Territory Response and Eni Response	Exercise reports.
Notification exercises	At least annually and prior to drilling	Test/check all communication and notification processes to service providers and regulatory agencies defined within the OPEP	Documented communication test/check
IMT exercise in conjunction with AMOSC	Every 2 years.	The objectives of this joint exercise will be to: • practice the Eni IMT activation of the AMOSC IMT • practice the interface between the Eni IMT and AMOSC IMT personnel	Exercise reports.

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9.6 Environmental Performance Outcomes, Environmental Performance Standards and Measurement Criteria

OPEP and SCRP Testing		
EPO: Spill arrangements are maintained and tested to respond to worst-case spill events		
Control	**PS**	**MC**
Maintain a state of readiness to respond to oil spill events	The IMT will conduct annual oil spill exercises, using NOPSEMA accepted OPEPs. Oil spill exercises will be scheduled in the Eni 1Y and 4Y drills program. IMT exercise objectives will include the IMT's ability to: • identify and notify relevant stakeholders within timeframes specified in the OPEP • develop an incident action plan, including: – appropriate use of SMV data to inform response decision making – identification of sensitive receptors and protection priorities – completion of an Operational SIMA to determine secondary response strategies – assessment and activation of relevant operational and scientific monitoring programs. – identify relevant (scenario specific) response strategy capabilities and practice mechanisms/arrangements to activate them, within timeframes specified in the OPEP.	Eni 1Y and 4Y drills program Exercise reports.
	A minimum of one IMT exercise will be conducted in conjunction with AMOSC every 2 years. The objectives of this joint exercise will be to: • practice the Eni IMT activation of the AMOSC IMT • practice the interface between the Eni IMT and AMOSC IMT personnel	Exercise reports
	Exercise findings and improvement opportunities will be recorded in the exercise report. The exercise report will identify the action tracking register used to track improvement	Exercise reports and action tracking register

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OPEP and SCRP Testing		
EPO: Spill arrangements are maintained and tested to respond to worst-case spill events		
Control	**PS**	**MC**
	opportunities to closure, to ensure the test objective can be achieved in the future.	
	When drilling, an exercise is conducted to test the SCRP approx. 2 months prior to the commencement of drilling into the reservoir and learnings are fed back into the SCRP and any associated subplans. The SCRP is tested to ensure that the response arrangements are in place including: • Access to source control emergency response personnel (WWC within 72 hours of notification) • Access to source control equipment • Access to relief well supplies (e.g., long lead equipment for a relief well drilling)	Exercise reports Learnings captured and actioned in a register Confirmation of equipment provision from service providers and mobilisation timeframes to meet SCRP requirements Confirmation that WWC specialists are available within 72 hours. Confirmed ability (e.g., through contracts or emails) for accessing relief well supplies.
	All communication and notification processes to service providers and regulatory agencies defined within the OPEP are checked/tested annually and prior to drilling.	Documented communication test/check

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10. OPEP REVIEW AND AUDITS

The MSEQ 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; and
- 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.

10.1.1 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.

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11. 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.

APASA, (2013). Asa Oils Spill Risk Assessment Report Prepared for Worley Parsons.

APPEA (2021). Australian Offshore Titleholders Source Control Guideline. Revision 0 (approved) | June 2021.

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.

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>.

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

National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA), (2019). Environment Bulletin – Oil Spill Modelling. Document number: A652993. Published April 2019.

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

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>.

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RPS (2019). Eni Blacktip Quantitative Spill Risk Assessment. 21 Jan 2019. Ref MAW0756J.

RPS (2023). Eni Blacktip Oil Spill Modelling Report. 20 October 2023. Ref MAQ1276J.

MSG-HSE-ENI-SPA-ENG-R04; HSE MSG

MSG-HSE-ENI-SPA-ENG-ALL-H-R02; HSE MSG ANNEX H – managing emergencies

opi-hse-005-eni-spa-nr-EN-r01 Planning and Execution of HSE Emergency Exercises

opi-hse-009-eni-spa-nr-EN-r01 Emergency Response Strategy and Plan

pro-hse-001-eni-spa-nr-EN-r01 Communication flows for pre-alarms or emergencies - Natural Resources

opi-hse-031-eni spa_EN_r02 Planning and Management of natural events

pro-hse-005-eni-spa Management of fuel supply and combustible materials in emergencies

ENI-HSE-PL-032_05 - Incident and Crisis Management Strategy

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APPENDICES

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APPENDIX A

SPILL RESPONSE FORMS

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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: _____

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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

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

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

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

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

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 _____	☐

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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**			

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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?				

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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				

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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 _____	☐ ☐ ☐ ☐

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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**

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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				

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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						

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Part 1C – Complete for environmental incidents

Environmental Impacts

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

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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**

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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.

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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.

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APPENDIX B

CONTROL AGENCY TRANSFER CHECKLIST

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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.

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☐ 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>

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APPENDIX C

INCIDENT ACTION PLAN TEMPLATE

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INCIDENT ACTION PLAN TEMPLATE

Phase/Task		Action	Responsibility	Check
Briefing	1	Brief key IMT Officers	IMTL/ 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.	IMTL/ 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	
IAP Preparation	9	Document aim, objectives and strategies and prepare Draft Incident Action Plan.	IMTL/ 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.	IMTL	

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

APPENDIX D

NET ENVIRONMENTAL BENEFIT ASSESSMENT

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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 IMTL. 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 IMTL. 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 IMTL 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.).	
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.	

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Task	Action	Status
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 5.6.4 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. • 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	

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Task	Action	Status
	• 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 IMTL 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 IMTL.	

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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**

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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			

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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**
		• 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	• Can reduce volume of surface slick • Reduce the risk of oiling of wildlife and shorelines	• Requires trained responders • Booms in shallow water monitored to free trapped wildlife and prevent damage to shallow reef			

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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**
	to intertidal and benthic habitats • Disturbance of shoreline fauna, e.g. nesting birds or turtles	• Less waste generated than during shoreline clean-up	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			

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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**
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 • Depending on environment may not speed natural recovery	• Removes stranded hydrocarbons from shorelines – reduces oil burial and long-term contamination • Reduces impacts associated with smothering effects • Reduces risk of wildlife contacting oil • Reduces potential for remobilisation of stranded oil to other	• Remote area work requiring extensive logistic support including waste removal and transport • Access permits required for some areas. • Induction and training of onshore team accessing to uninhabited islands. Induction to include that spill response teams should avoid disruption of environment and take practical tactical precautions to			

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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**
		sensitive receptors • May speed shoreline recovery	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			

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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**
			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 survival (predation and/or exposure)	• 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 other operational			

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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**
	• Large volumes of oily water and waste generated by bird washing		activities associated with the response (e.g. containment and clean up, aviation etc.)			

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APPENDIX E

BONN APPEARANCE CODES

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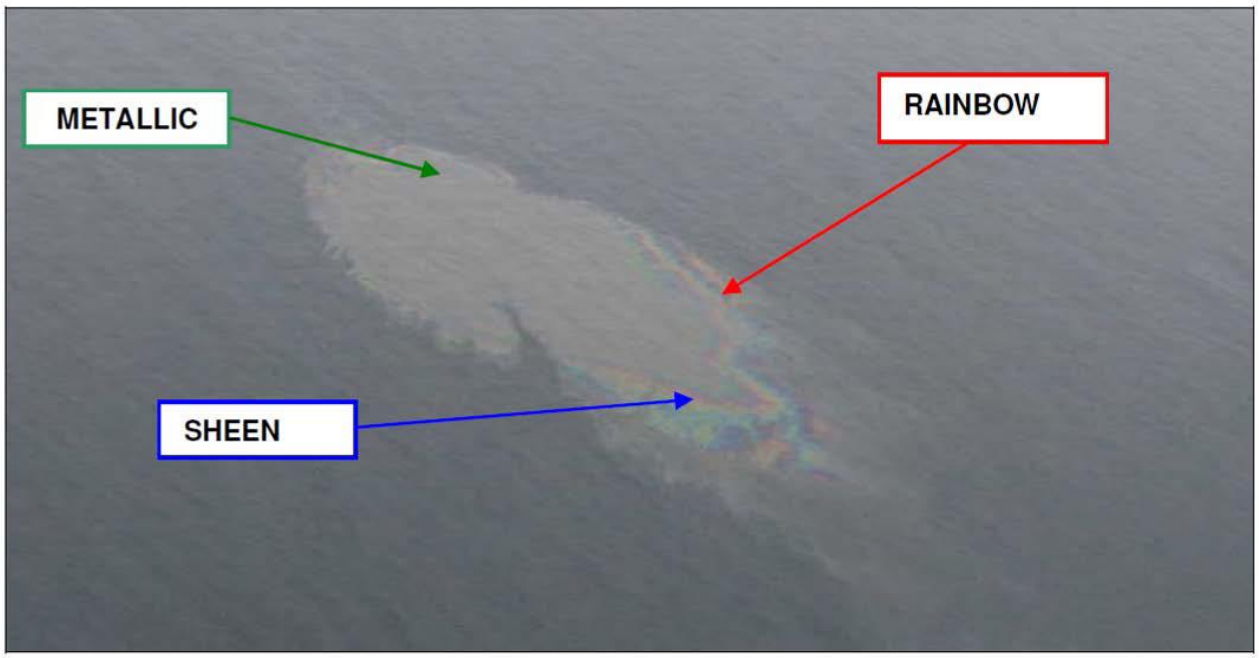
Bonn Appearance Codes

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



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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

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APPENDIX F

ESTIMATING OIL SLICKS AT SEA

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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.

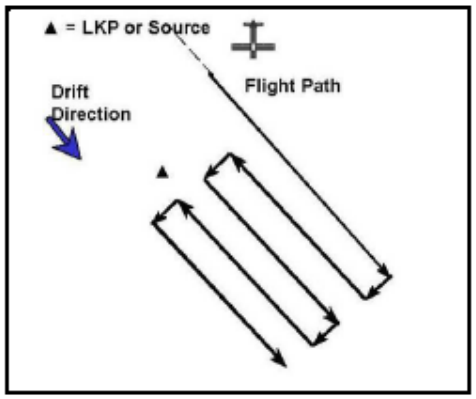

Figure I1: Parallel track search pattern

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

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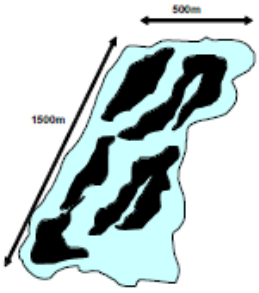
3. Multiplying the area by the percentage of the slick that is oil (i.e. not clean water).
4. The areas covered by the various oil thicknesses should be calculated.
5. Calculate oil volumes using equation below.

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.

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APPENDIX G

IMT RESOURCING PLAN

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ENI Australia: Incident Management Team and Operational Team Resourcing

Drafted by the Australian Marine Oil Spill Centre for ENI Australia.

Version distribution date	Version	Notes
23/12/2022	0	Consultation Draft
13/02/2023	01	Final Version

Table of Contents

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Glossary of Acronyms and Terms

Acronym or Term	Meaning
AMOSC	Australian Marine Oil Spill Centre
COP	Common Operating Picture
Covid19	Coronavirus disease - an infectious disease caused by a newly discovered coronavirus responsible for the pandemic of 2020.
FTE	Full time equivalent – a full workload load of an employee or equivalent employees (generally 40 hours per week)
EP	Environment Plan
GIS	Geographic Information Systems
GN 1488	NOPSEMA Guidance Note (#1488) on Oil Pollution Risk Management
ICS/IMS	Incident Command/Management System
IMT	Incident Management Team
LCS	Logistics Section Chief
LO	Liaison Officer
NEBA	Net Environmental Benefit Analysis
NT	Northern Territory
OSC	Operations Section Chief
OPEP	Oil Pollution Emergency Plan
OPGGS E Regs (2009)	Offshore Petroleum & Greenhouse Gas Storage (environmental) Regulations 2009
OSMP	Operational & Scientific Monitoring Program
OSRO	Oil spill response organisation
OSPR	oil spill response
OT	Operational Team
PSC	Planning Section Chief
SCAT	Shoreline Collection Assessment Technique
SIMA	Spill Impact Mitigation Assessment
SMV	Surveillance, Monitoring & Visualisation
TH	Title Holder
WCD	Worst Case Discharge
WA	Western Australia

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1. Purpose

Background

ENI Australia (ENI) is planning to undertake drilling of two additional wells (P3 and P4), in addition to the workover of P1 within Block WA-33-L located in the Joseph Bonaparte Basin, in the Joseph Bonaparte Gulf, Western Australia, to assist with increased production requirements. ENI have requested AMOSC to support the demonstration of incident management team (IMT) and Operational Team (OT) capacity and capability. This will be done against a worse case discharge scenario for Blacktip LOWC as detailed in OPEP Ref: 000036_DV_PR.HSE.0887.000 (The 'OPEP').

Aim: Using the current ENI Incident Management Team (IMT) structure, and the Blacktip project OPEP, define the resources (IMT and Operational Team [OT] – personnel and equipment resources) required to scale up a response to a worst-credible scenario.

Objectives:

- Develop a scalable time stepped approach identifying the necessary resources to tactically implement the identified response strategies for the worst-credible discharge scenario.
- Determine sensitivities likely to be impacted in a worst-credible scenario based on deterministic modelling and propose personnel and equipment resourcing required to support a response to counter these impacts.
- Demonstrate the scalability of the IMT structure size (time stepped, based on predicted operational oil spill response requirements, using ENI's IMT structure) and the size of the IMT and FT commensurate to the operational requirements for a worst-credible scenario. Using known resources gaps to be identified.
- Consideration of ENI's personnel requirements to satisfy the WA and NT IMT's.
- Integration of the source control resourcing structure with the IMT structure.
- Reference appropriate best practice guidelines (such as IOGP/IPIECA, API, APPEA, AMOSC). in support of the IMT and OT structure.

Factors for consideration

- Consideration of the ENI requirements to satisfy the state/territorial jurisdiction requirements for spills entering into the state/territorial Waters.
- Scalability of the IMT structure size (time stepped and bottom up approach) to demonstrate the IMT and OT commensurate to the operational requirements for a worst-case discharge scenario for the Blacktip offshore drilling campaign. This is to consider peak resource descriptions.
- The availability of geographically separated individuals/groups supporting 'virtually' forming the ENI IMT.
- Reference appropriate best practice guidelines (such as IOGP/IPIECA, API, APPEA, AMOSC) in support of the IMT and OT structure.
- In undertaking this review, any gaps between need and availability will be highlighted.

State/territorial Jurisdiction Requirements – ENI IMT and OT design

- The ENI IMT and OT will work with and as directed by state/territorial jurisdictions should oil from a Blacktip offshore drilling activity enter/threaten to enter state/territorial waters.

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- Arrangements are in place to provide early liaison between the ENI and state/territorial jurisdictions and, if required, for ENI to provide operational and IMT resourcing to the state/territory as required.

2. IMT and OT – identifying the need.

2.1 To implement a successful oil spill response, ENI is required to establish the severity of an oil spill incident and stand up an IMT and OT proportionate to the scale of the incident. This needs to be done consistent with ENI's Blacktip offshore drilling EP and operations OPEP.

2.2 To determine the need, the IMT and OT will follow the incident management process as outlined in Section 5 of the ENI Blacktip operations Oil Pollution Emergency Plan (000036_DV_PR.HSE.0388.000).

2.3 Through these steps, ENI has reviewed and initiated;

- initial IMT and OT manning and outputs
- peak IMT and OT manning and field capacity needs
- transition IMT and OT manning to demob/termination

2.4 The maximum field capacity as outlined in the OPEP is a suite of operations that include the following tactical execution of strategies:

A. Surveillance, Monitoring and visualisation;
B. Shoreline asset protection;
C. Shoreline Assessment and Clean-up; and
D. Oiled Wildlife Response.

The details of these strategies are contained in Table One below.

2.5 Other strategies have also been considered in the OPEP, however these have not been used for intervention as they were deemed as either not viable/not effective through the ENI's preparedness NEBA process. Conditions around the management of change for these other strategies may be considered through the EP, or the dynamic incident action planning process put in place by the ENI IMT for the spill that occurs at the time.

2.6 The execution of ENI's OSMP will be undertaken by specialist third party consultants which will provide operational resources required and work directly with the operations function within the IMT.

2.7 ENI identified 26 shoreline receptors considered as protection priorities based on the oil spill modelling (ref: RPS 2019 MAW0756J). The worst credible scenario used for the modelling was a 4,943m3 (or 31,090 bbl) surface release of Blacktip condensate over 74 days to represent a loss of well control. Blacktip Condensate contains a large proportion of volatile compounds, and a low proportion of residual hydrocarbons. If exposed to the atmosphere, around 98.6% of the mass will be expected to evaporate in around 24 hours, another 0.4% within a few days, and the remaining 1% will be expected to persist in the marine environment.

2.8 During the surface release, the condensate will be highly susceptible to rapid evaporation or entrainment into the surface mixed layer of the water column (3-10 m deep, depending on the conditions). Floating oil concentrations equal to or greater than the low (1g/m2) threshold could potentially be found in the form of slicks, up to 19km from the release location. No sensitive

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receptors are predicted to be contacted by floating oil at any threshold. Of the shoreline receptors identified 3 receptors, the Kimberley Coast and Joseph Bonaparte Gulf East and West, are predicted to have a 1% probability of receiving shoreline oil at the low threshold (10g/m2) with a predicted arrival time in excess of 6 weeks. The potential for accumulation of oil on shorelines is predicted to be low, with a worst-case local accumulated concentration and volume of 61 g/m2 and 10 m3 , respectively, forecast at the Joseph Bonaparte Gulf East receptor.

2.9 For the WCD scenario (heaviest oil loading scenario) the initial contact of oil on shorelines will take approximately 6 weeks. This allows time to mobilise the pre-identified human resources required for the response, with an additional just-in-time on the job shoreline response training programme with the temporary workforce initiated in parallel to support an extended response. For the response locations some terrestrial access via tracks is possible in addition to the use of liveaboard vessel support to facilitate the response to inaccessible locations.

2.10 State/territory requirements have been identified to provide the initial engagement with the state/territorial jurisdictions in the first week with additional support to be negotiated as required.

2.11 On the basis of the field oil spill response strategies detailed in Table One, the operational response will use resources available within Australia. These include those from AMOSC, government parties to the National Plan, the state/territorial jurisdictions, industry and mutual aid. In addition, Global Response Network Resources could be called upon to support any longer-term response through subject matter expertise and longer-term resourcing if required.

2.12 From the IMT response, the remote support model (Refer to Section 3 of this document) that ENI will adopt for its incident management allows them to quickly activate resources from tier two (Australian-based) locations.

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TABLE ONE Peak Field Resourcing Requirements

Strategy	Tactics	Requirement	Equipment Need P/team	Vessel/Aircraft Need P/Team	Personnel need p/team
1. Surveillance, Monitoring & Visualisation	Overflights of the spill area and areas likely to be impacted.	Daily overflights of the oil spill / search area	2 x Aerial Observer Grab Bags	2 x Aircraft – fixed wing or rotary	4 x pilots (2 per craft) 2 x aerial observers
2. Shoreline asset protection	Shoreline sensitivity protection & deflection booming, recovery operations	5 x protection & deflection strike teams. (as required to protect sensitivities).	Minimum requirements for each team: 50m shore seal boom 50m near shore boom (ie zoom boom or GP boom) Shoreline skimming system; Waste management capacity min 10m3 volume (fast tanks, IBC's)	For each team 1 x Small vessel for towing boom offshore. 1 x large vessel if remote locations need to be accessed	For each team: 1 x trained Operations oil spill responder 3 x labour hire personnel
3. Shoreline assessment & clean-up	Shoreline Clean-up Assessment Technique (SCAT) field survey teams	5 x SCAT teams	For each team: 1 x drone – (allowing equipment redundancy) 1 x SCAT grab bag	For each team: 1 x Vehicles for shoreline accessible locations; or 1 x vessel with capacity for 4 x SCAT personnel for inaccessible locations.	For each team: 1 x SCAT team Lead 1 x labour hire 1 x wildlife observer 1 x drone operator
	Shoreline clean up (shoreline type specific)	5 Shoreline clean-up teams.	For each team: Shoreline response kits incl (Type and quantalities to be adjusted according to shoreline type & oiling): Manual oil collection equipment Mechanical oil collection/removal machinery & plant	For each team: 2 x Vehicles to transport personnel and trailered equipment to terrestrially accessible locations. 1 x vessel for teams working at inaccessible locations.	For each team: 1 x shoreline clean-up team lead 10 x labour hire 5 x plant operator to work across teams where plant can

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			Waste collection and containment equipment Equipment and personnel decontamination equipment Site zoning equipment for sealing off the site		access the beach and where it is deemed appropriate.
4. Oiled Wildlife Response	Oiled Wildlife Response	1 x wildlife response team	2 x First strike response equipment cache's (phases 1-4) 2 x wildlife response containers (phases 5-8) Immediate sourcing of equipment identified in the appendices of the OWR Plan.	5 x 4WD vehicles for terrestrially accessible locations 2 x vessels with capacity for hazing and rescue teams of 4-5 for coastal operations.	1 x Oiled Wildlife Coordinator 5 x trained section managers incl: Reconnaissance; Rescue and Transport; Staging and holding; Rehabilitation and Rehabilitation Facilities. >5 skilled wildlife handlers >30 unskilled labour Hire >7 specialist personnel (vets, vet nurses etc)

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IMT and OT expansion

Key factors from the maximum field capacity influencing the IMT and OT structure, function and size:

2.13.1 There are two stages of the IMT and OT mobilisation and therefore the associated manning levels:

1/ The immediate response and execution of strategies;
2/ longer term assistance to the state/territorial jurisdictions to support ongoing shoreline response that reduce impacts in near-shore areas, including Oiled Wildlife Response.

This can be visualised as the below:

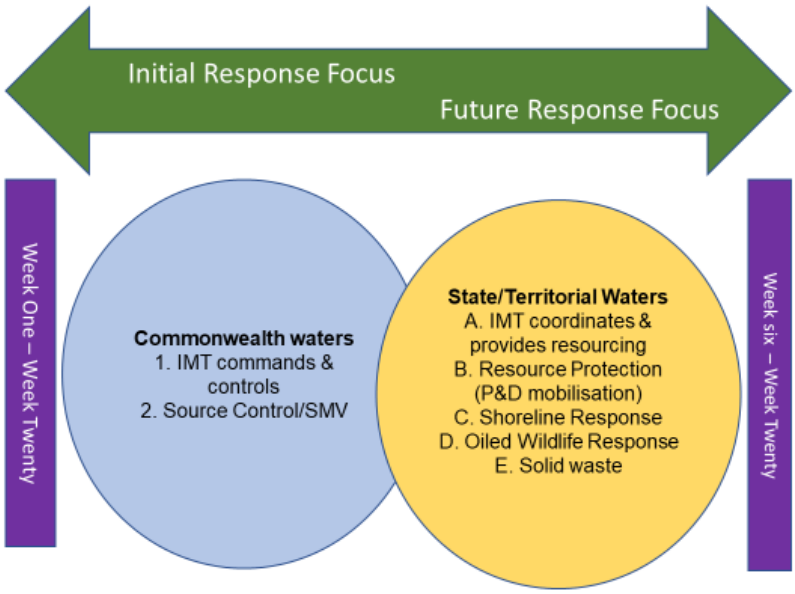

FIGURE ONE – COMMONWEALTH/STATE/TERRITORIAL WATERS IMT FOCUS

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The resources pool required to be available to fill the peak IMT and OT resource requirements are indicated in the following graphs:

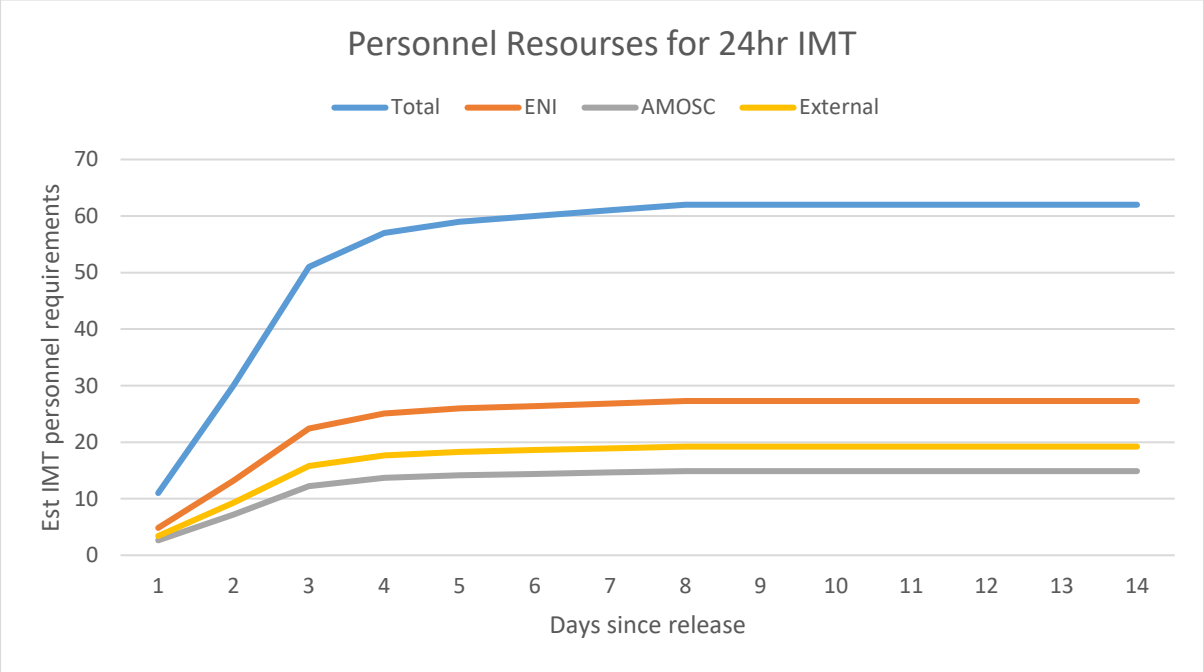

FIGURE TWO – PERSONNEL RESOURCES FOR 24HR IMT

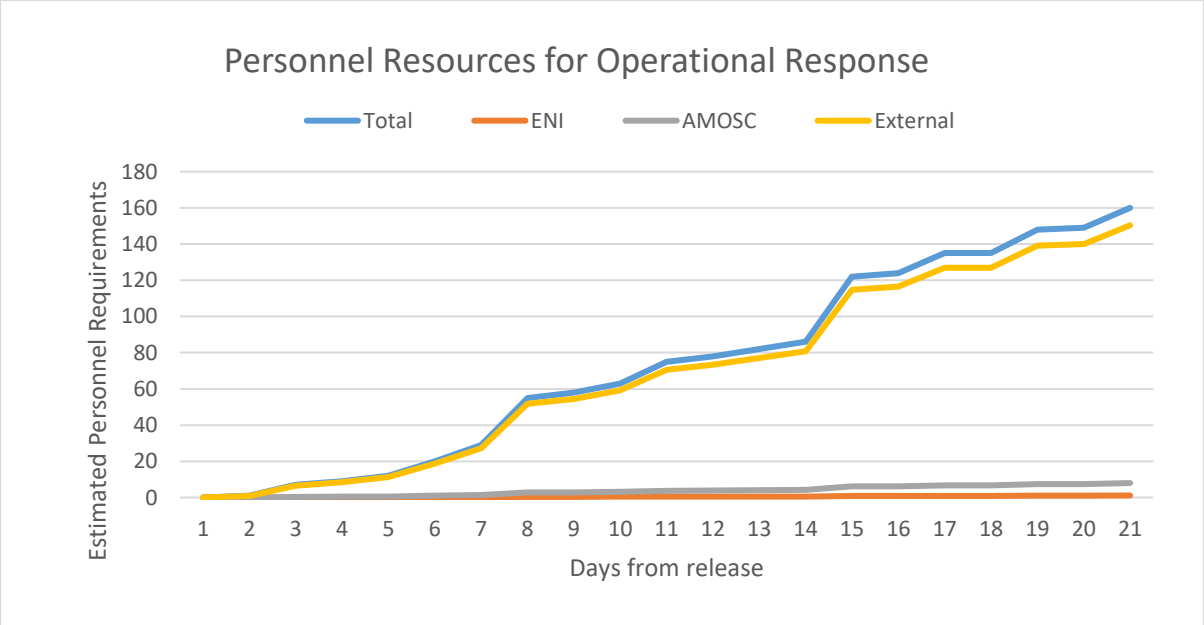

FIGURE THREE – PERSONNEL RESOURCES FOR OPERATIONAL RESPONSE

Note: The resources for shoreline response may continue to rise as shoreline contact increases and sites require additional resources.

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3. IMT and OT size and tasking requirements to meet the Blacktip WCD Scenario

3.1 Based on the needs detailed out in Section 2, the ENI IMT and OT will be required to:

- Activate and mobilise resources as per the requirements of the OPEP;
- Determine, resource & direct the Source Control and Surveillance Monitoring & Visualisation.
- Determine, resource, mobilise and complete Resource Protection and Shoreline Response, coordinated and supporting the state/territorial jurisdiction, and provide the personnel to meet the state/territorial jurisdiction IMT and OT requirements.

3.2 The IMT will direct this using the stock IAP development and planning process as outlined under Section 2.6 and the template in Appendix C of the OPEP (000036_DV_PR.HSE.0388.000). The IMT will take the form as outlined in Section 5 of the OPEP. It will be supported by remote elements who will be working from Geelong.

3.3 The core constant functional sections of the IMT and OT during the response will be those outlined below in Table Two:

TABLE TWO – CORE IMT FUNCTIONS

Higher Function	Sub/Function	Outputs	Outcomes
Incident Control	Control	Safe and efficient response structure and organisation.	A response is put in place that meets the requirements of the TH's OPEP (EPO's & EPS). People and process in place that meets the above.
	Public Information	Develop messaging and manage external information flows to stakeholders and members of the public.	Public information messaging viable and accessible across all relevant platforms.
	Safety	Draft the development of a plan that assesses and manages the safety risk of the response.	Safety risks assessed and mitigation plans/processes in place
	Liaison Officers	External/pubic/stakeholder affairs are managed.	Key stakeholders (government, regulatory and community) are informed of the incident and have their concerns acknowledged and addressed by the response organisation.

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Planning	Planning	Drive the planning process that develops the IAP. Tracking resources.	Response planning and 'thinking' that best fits the scenario (oil type, weather, fates, locations, sensitivities), to most effectively clean up oil.
	Environmental Unit (Intelligence)	OSPR strategies are tactically implemented consistent with good global practice, accounting for the benefit and dis-benefits of each strategy. COP – situational assessment (intelligence). Assessment of environmental risk.	Daily NEBA / SIMA analysis. Analysis of the resources at risk. Deployment of OSPR SME and technical advice into the IMT.
Operations		Run the operations in the field. Provide technical input to the production of the next operational period IAP. Draft the daily operational orders for each field team. Provide tech input to the safety plans.	Run the current operations in the field – the execution of the IAP for that operational period.
Source Control		Plan for and Manage all elements of Source Control.	Run the planning and implementation of source control activities
Logistics		Acquire resources and materials that match the operations Ensure resources are serviced and maintained to required specifications.	For purpose resources are where they need to be at the right time.
Finance & Administration		Tracks all costs and provides financial oversight consistent with the control agency requirements.	Financial and administrative management process in place for the response.

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3.4 Geographic disposition of IMT;

Delivery of the above tasks will be undertaken using an IMT in Perth, providing support to the FOB and OT (Darwin). The IMT will be supported by a remote team in Geelong and outsourced resources. This is consistent with the IPEICA Remote/Support Model as outlined below:

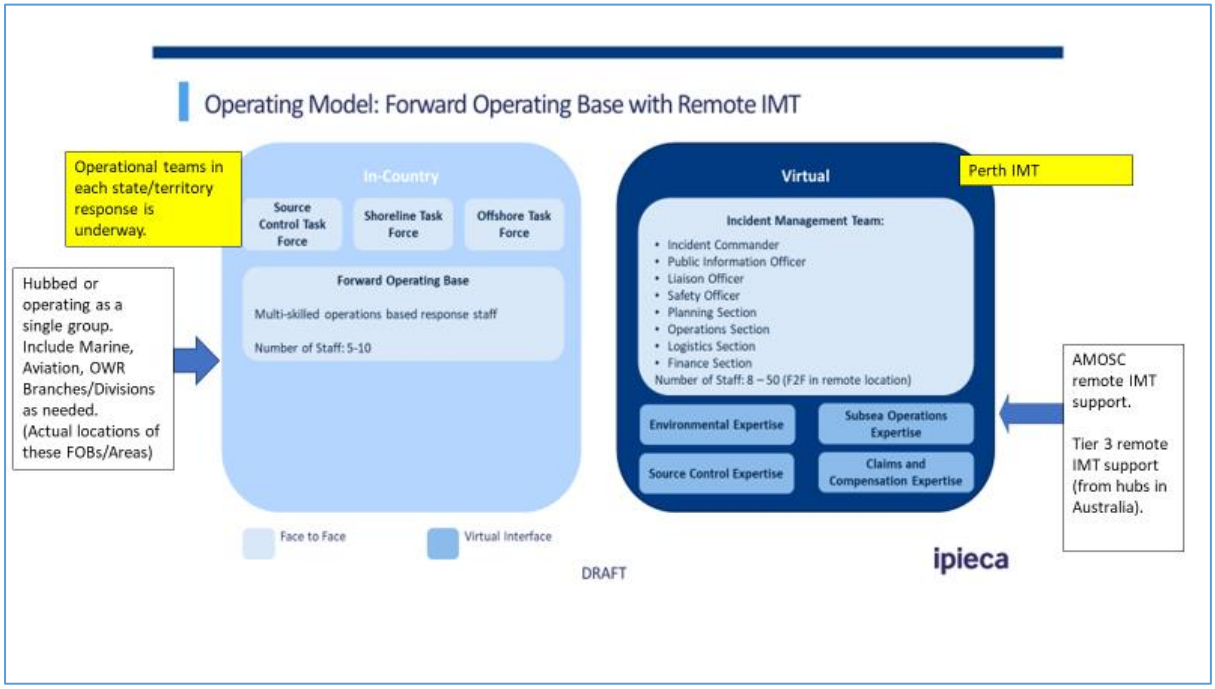

FIGURE FOUR – ADAPTED FROM IPEICA REMOTE IMT DELIVERY MODEL (SOURCE: 'IPEICA OIL SPILL GROUP – PANDEMIC WORKING GROUP')

3.5 Specific tasking will be devolved to the lowest possible level, as close to the operation as it can be. Functional outputs will be undertaken by specialist third party providers to complete operational tasks. The ENI IMT will devolve outputs to those parties to plan and execute.

Under the ENI IMT and OT model:

The ENI IMT on site staff (Perth based) will be preparing an initial incident briefing sheet that comprises:

- Incident maps
- Summary of Incident & Current Actions
- Current Response Organisation
- Resources Summary, and
- site safety & controls.

They will also be completing the high-level components of the IAP that includes the Incident Briefing and Response Objectives.

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A small number of the ENI IMT will be used through the night shift to finalise and progress activities that are not day light dependant – these include the movement/forward deployment of plant and materials and elements required for Source Control.

- For oil spill response operations, AMOSC will be issued (under contract) a request to stand up its IMT and OT commensurate with the objectives at the time. ENI will communicate to AMOSC its objectives. These may include aerial observation, shoreline response (including P&D for sensitivities and cleanup) and wildlife response. To undertake these operations, AMOSC will use its systems to undertake planning and execution of operations that will be outlined in taskings and operational daily orders, the air operations plan for aerial observation, the Org Chart and Site Safety plan specific to the operations. Further AMOSC will develop and execute the resource protection and shoreline clean-up plans in conjunction with the relevant state/territorial jurisdiction. OWR plans will also be undertaken with the relevant state/territorial jurisdiction.
  For media and public information, ENI will task this to their CMT to provide up to date public statements.

- For the state/territorial jurisdiction LO function, this will be provided initially through the placement of an ENI resource into the state/territorial jurisdiction, escalating to serve their needs as required. Federal Government LO agency needs will be served remotely through direct communication with the ENI IC, with support from AMOSC. Should the response escalate, a senior AMOSC resource will facilitate the engagement with OPICC in conjunction with the ENI IC.
- For Logistics functions, these will be undertaken by the ENI IMT and specialist third-party providers, each of whom will fill roles as noted in Table Three below working in the ENI IMT. The coordination of equipment to go to the site and coordination of services will each require a dedicated FTE for the duration of the response. Communications and IT functions both require FTE or outsourced support, to provide interconnectivity and ICT for the IMT personnel. Facilities Management (IMT and OT), Food unit coordination (IMT and OT) along with a specialised Medical Unit lead (incl Covid infection control) all require an FTE within the Logistics Section of the IMT to coordinate/provide OT support.
- For the GIS/COP generation, ENI will subcontract to take the situational data being generated by the response, and display this out to required parties.

Peak Manning Levels – combined IMT and OT

Based on the specific workloads required to run the ENI peak field operations by the IMT and OT (As detailed above), AMOSC, and various third-party specialists, the proposed IMT and OT organisation structure to run and sustain peak field response is outlined below. The positions for these are reflected in Table three below:

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TABLE THREE – PROPOSED IMT AND OT (SHORELINE LOADING TACTICAL EXECUTION) SCENARIO

IMT Role	Core/Initial resource provided	Back-Up / Secondary source
1. Incident Commander	ENI	
2. Deputy Incident Commander	ENI	AMOSC
3. Safety Officer	ENI	
4. Federal Liaison Officer	ENI	AMOSC (OPICC rep)
5. State/territorial Liaison Officer	ENI	
6. Local Liaison Officer	ENI	
7. Planning Section Chief	ENI	ENI
8. Documentation	ENI	
9. Environment Unit Lead	ENI	ENI
10. Trajectory Forecasting	AMOSC – remote (and contractors)	AMOSC – Remote / Specialist Third Party
11. Historical & Cultural SME	Contractor	
12. Response Technical Specialist	AMOSC – remote	
13. Resources at Risk	AMOSC – remote	
14. Situation Lead	Specialist Third Party (GIS specialist)	
15. COP Display / GIS Expert		
16. Resource Unit Lead	ENI	
17. Demobilisation Unit Lead		
18. SCAT Team Lead	AMOSC Remote	Specialist Third Party/ National Response Team
19. Shoreline Response Programme Manager	AMOSC Remote	Specialist Third Party/ National Response Team
20. Operations Section Chief	ENI	
21. Air Operations Branch Manager	AMOSC Remote	
22. Marine Operations Branch Manager	AMOSC Remote	
23. Oiled Wildlife Response Commander	AMOSC Remote/ AMOSC OWR team / AMOSC Mutual Aid	

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24. Shoreline Clean-up Commander	AMOSC Remote/ AMOSC OWR team / AMOSC Mutual Aid	
25. Resource Protection Division Commander	AMOSC Remote/ AMOSC OWR team / AMOSC Mutual Aid	
26. Source Control Branch Director	ENI	
27. Relief Well Group Leader	ENI/ Specialist third party	
28. Well Kill Unit Leader	Specialist third party	
29. Relief Well Team	Specialist third party	
30. SIMOPS Group Leader	ENI/ Specialist third party	
31. Decontamination and demobilisation Unit Leader	Specialist third party	
32. Simops Team Lead	Specialist third party	
33. Well Contamination Group Leader	ENI/ Specialist third party	
34. Site Survey Unit Leader	Specialist third party	
35. BOP Intervention Group Leader	ENI/ Specialist third party	
36. Debris Removal Unit Leader	Specialist third party	
37. Subsea Dispersant Unit Leader	Specialist third party	
38. Engineering Support Group Leader	ENI/ Specialist third party	
39. Logistics Section Chief	ENI	
40. Support Branch Director	Specialist third party	
41. Supply Unit Lead	Specialist third party	
42. Facilities Unit Lead	Specialist third party	
43. Equipment Manager	Specialist third party	
44. Service Branch Director	Specialist third party	
45. Communications Unit (IT) Manager	Specialist third party	
46. Incident Comms Centre Manager	Specialist third party	
47. Food Unit Lead	Specialist third party	
48. Medical Unit Lead (includes infection control – COVID)	Specialist third party (medical & infection control)	
49. Finance Section Chief*	ENI	
50. Procurement Unit (marine & aviation asset contracting)	Specialist third party	
51. Compensation Unit	Specialist third party	
52. Administration & Records	Specialist third party	
NT jurisdiction IMT requirements	ENI	AMOSC

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WA jurisdiction IMT requirements	ENI	AMOSC
Operational Resources		
53. FOB Leader	ENI	AMOSC
54. Deputy Fob	AMOSC	
55. Safety Officer	AMOSC	
56. Aerial Base FOB Lead	AMOSC	
57. Aerial Observer - Oil monitoring	AMOSC	
58. Marine Base Manager	AMOSC	
59. Shoreline Ops Manager	AMOSC	
60. Scat team leads	AMOSC and CG	
61. Scat Team	CG, Labour Hire and wildlife SME	
62. TRP team leads	CG	
63. TRP trained responders	CG and NRT	
64. TRP General labour	Labour Hire	
65. TRP Response Operators	Specialist third party	
66. Shoreline response Team Leads	CG and NRT	
67. Shoreline Response Team workers	Contractors	
68. Shoreline Response Operators	Specialist third party	
69. Waste Management Coordinator	Waste Contractor	
70. Waste management responders	Waste Contractor	
71. OW Coordinator	AMOSC	
72. Reconnaissance Manager	Wildlife strike team and SME	
73. Rescue and Transport Manager	Wildlife strike team and SME	
74. Staging and Holding Manager	Wildlife strike team and SME	
75. Rehabilitation Manager	Wildlife strike team and SME	
76. Rehabilitation Facilities Management	Dwyertech	
77. Responders	Wildlife SME and labour hire	
78. Specialist support	Specialist third party	

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3.6 Functional day shift initial manning numbers is 50 personnel (ENI IMT + remote support from AMOSC) plus up to 12 additional personnel to support state/territorial jurisdiction IMT's. Functional night shift initial manning by is 5 (includes AMOSC Remote IMT support).

3.7 A spreadsheet that outlines the sustained resourcing needs for each function above is attached to this document in Appendix B. Beyond ENI, and affiliated OSRO's identifies a number of external agencies that would be required to provide the additional workforce as the response progresses and further numbers of personnel are needed. Specific needs include:

Within the IMT

- Skilled labour hire support for medical, catering, waste, logistics and finance roles and
- Environmental support from ENI environmental and source control consultants.

Within the Operations Team

- Skilled and unskilled labour from labour hire companies supporting trained team leaders in a range of operational tasks including:
    - SCAT teams
    - Specialist drone operators
    - Aerial Ops support labour
    - Shoreline response support
    - Wildlife response support

3.8 ENI will initially engage with the state/territorial jurisdictions through its LO function to establish the need for support roles in the lead up to the state/territory activating their IMT. The modelling provided by ENI indicates that the worst-case timeframe for contact with state/territorial shorelines is in excess of six weeks. However, the state and territories will mobilise their IMT and commence operational response within the first week requiring support from ENI.

3.9 Under the WCD scenario for maximum shoreline loading, the timeframe for the commencement of maximum support from ENI to state/territorial jurisdictions for roles supporting the IMT and OT is approx. 6-8 weeks post spill.

3.10 At a strategic State/territorial level, ENI recognises that Command and Control for state/territorial Waters will be coordinated as per each of the relevant state/territorial jurisdictions.

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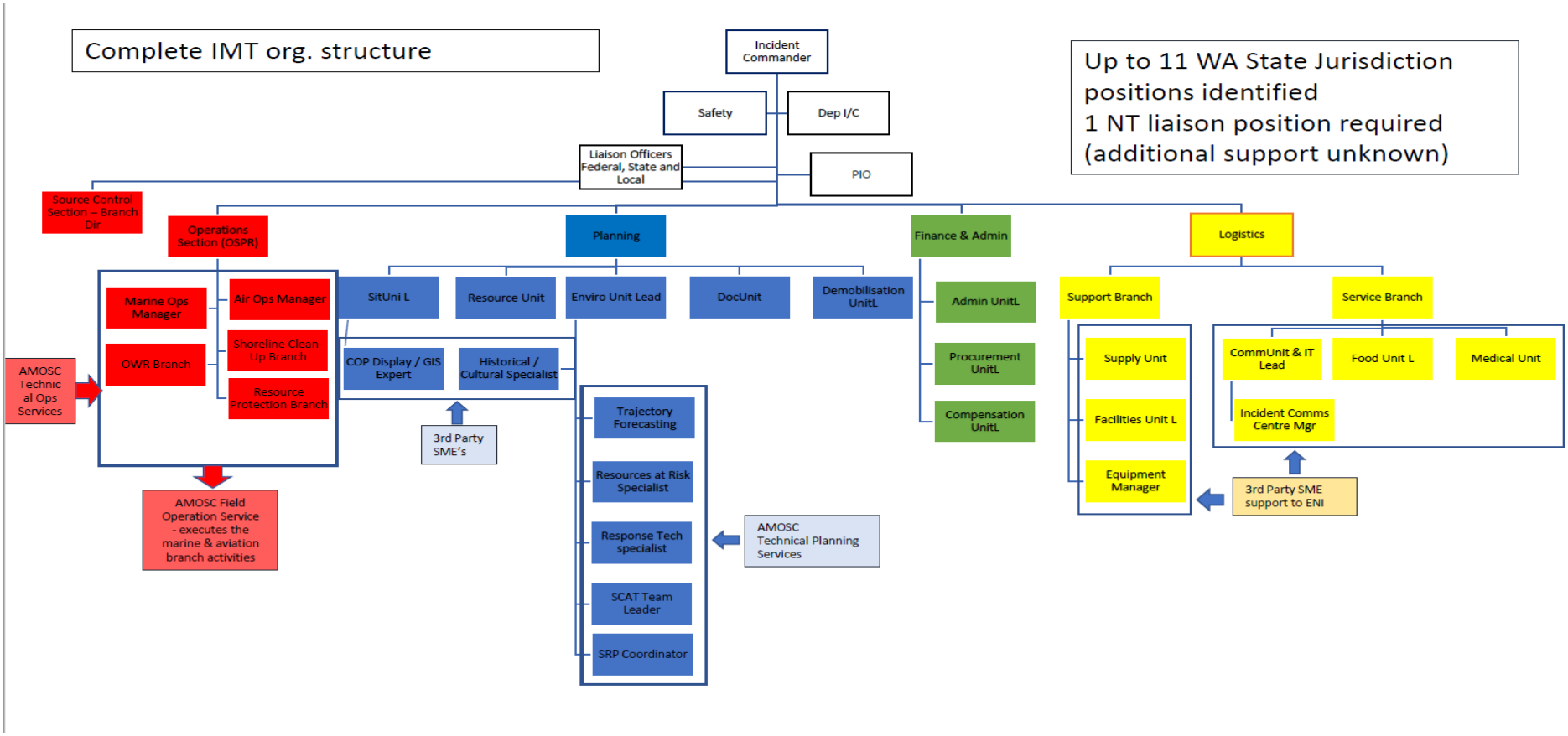

FIGURE FIVE – PEAK RESPONSE RESOURCE IMT STRUCTURE

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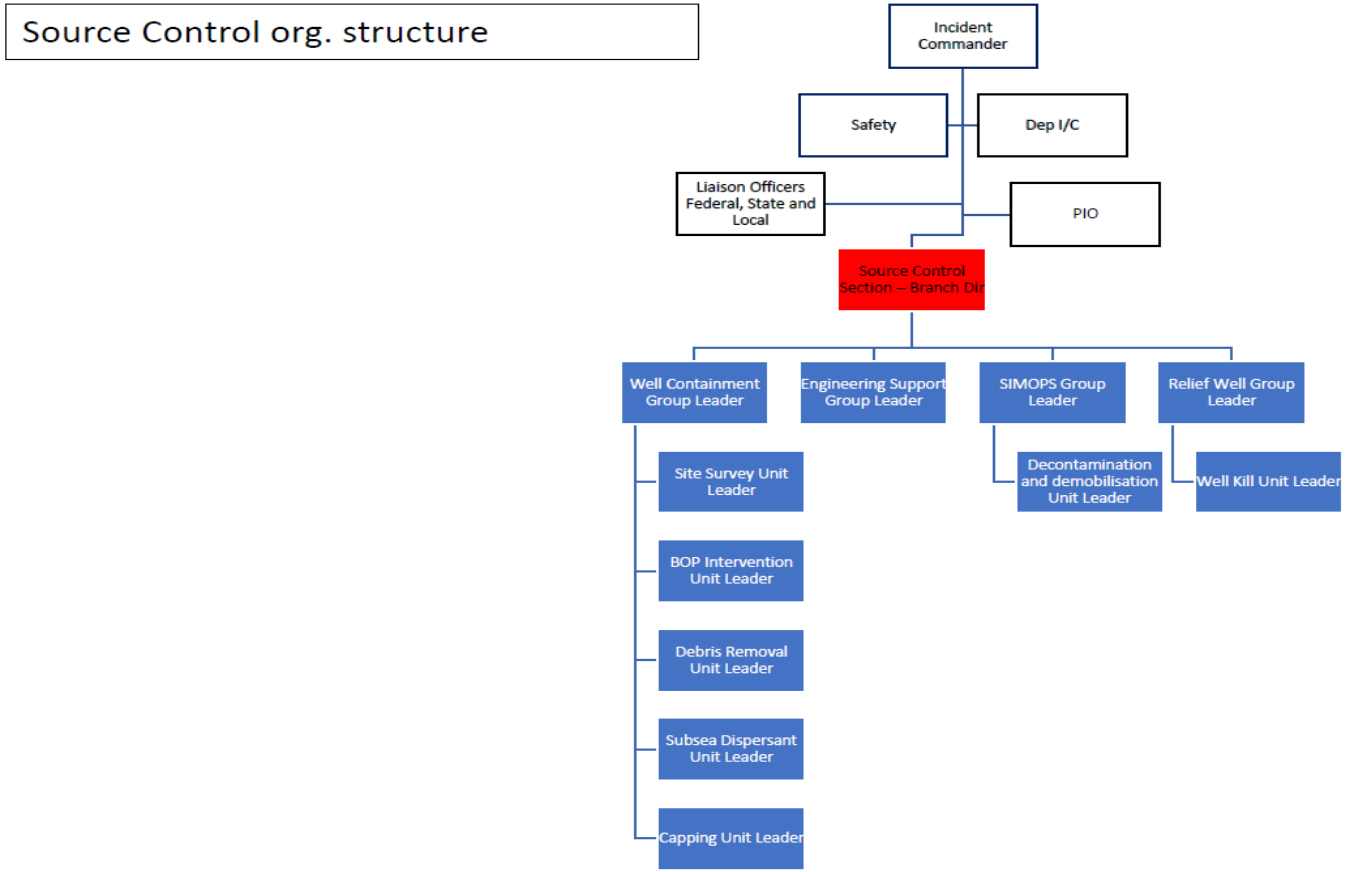

FIGURE SIX – PEAK RESPONSE RESOURCES IMT SOURCE CONTROL STRUCTURE

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Complete OPs structure -

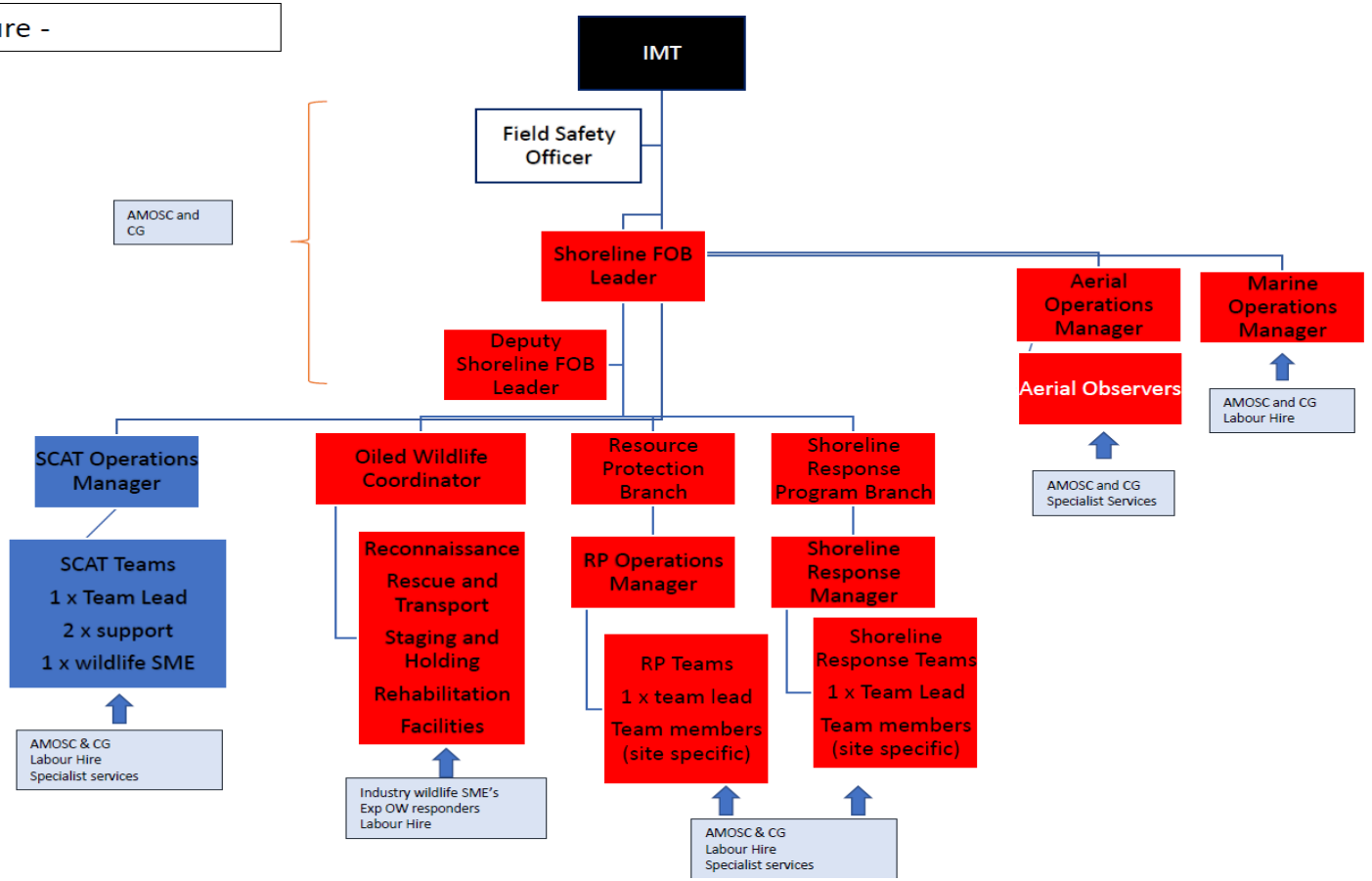

FIGURE SEVEN – PEAK RESPONSE RESOURCES OT STRUCTURE

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4. IMT and OT Roles – Competence for task – ENI model

4.1 ENI will ensure that all staff, contractors and remote third parties who are operating within their IMT (or provide remote services) have the requisite skills and knowledge for their prescribed role in the company's response structures.

4.2 Training will be a mix of incident management system/process training, and OSPR specific, particularly to the requirements of the role. ENI will use the drills and exercises programme as outlined in the OPEP to assist assure, test and train those who will be on the IMT and OT roster.

4.3 As a baseline, personnel operating within the ENI IMT or OT response structure will be required to undertake foundational familiarity sessions / training sessions to establish baseline competency and knowledge required for operating in a successful IMT and fulfilling roles within the OT, in executing oil spill response. Those who have section chief, IC, or specialist role within the IMT, will undergo more advanced level training instead of the foundations (as identified in Table 5):

- Introduction to OSPR – specific to the campaign. The purpose and use of the OPEP; the relevant legislative settings of OSPR response for Blacktip; the baseline characteristics of Blacktip Condensate and its behaviours/fates; oil spill response strategies; the environmental consequences of the spill; the relationship ENI has with its contractor, AMOSC, to deliver OSPR field operations and how these will operate together to execute the response.

4.4 For the leadership roles that have specific responsibilities for executing and implementing the process (ref Table 2 for functional descriptions including the PSC, Response Tech Specialist, OSC; Dep OSC; Air & Marine Branch Managers, LSC & Support Branch Director; and Supply Leads) further, higher level of IMS training is required to successfully lead and execute the process. Staff fulfilling these roles are required to be technically competent in oil spill response in order for the hazard specific elements be successfully implemented within the ICS. Specifically:

- AMOSC Course in Oil Spill Management (Accredited to the IMO II equivalent). This training includes the roles and responsibilities of a multi-disciplinary oil spill management team in an oil spill response centre; the use of a defined structure (IMS) to develop and execute an oil spill IAP; the intelligence & environmental functions critical for oil spill response (fates, weathering, NEBA) and the logistics required to mount a response.
- Those undertaking an IC/ Deputy IC role will substitute the IMO II for the AMOSC Course in Oil Spill response Command and Control (Accredited to the IMO III equivalent). This includes elements under the IMO II equivalent training, with additional training around leadership and management of the IMT; the legislative and political settings for an oil spill IMT; media and communications; interfacing with the CMT and Senior Government stakeholders; and managing a multi-agency response.

4.5 Remote service provision to these roles by third parties, need to meet the same training standards (matrix), and assured by that agency as providing (Commensurate equivalency if need be) 'fit-for-service' personnel.

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- For OSROs, this means that personnel will need to be trained and competent in AIIMS, and Oil Spill Response Courses equivalent to the IMO Level II and above. OSRO personnel provided to the fulfil specific duties in the IMT must also have experience and a depth of knowledge in their area of expertise, gained through either practical experience, advanced exercises and drills, or as a practitioner in that field (IE – Environmental specialist).

4.6 AMOSC's Courses including Oil Spill Response Management, Oil Spill Response Command & Control, Oiled Wildlife Response Management have been mapped against the APPEA IMT training document knowledge requirements. The mapping has shown clear alignment of the courses with the skill requirements for the identified for IMT positions.

4.7 Some IMT roles require trade or tertiary qualifications, or workplace experience that (EG – Scientific/Environmental Degrees, Marine trade tickets) aligns with the duty role being requested of the individual. These are included in Table Four below:

TABLE FOUR – IMT AND OT POSITIONS V QUALIFICATION, SKILLS OR EXPERIENCE

Position	**Recommended qualifications, skills or experience**
Incident Commander	Senior Company representative with DOA from company for expenditure equivalent to the management of business unit and SC operations.7 + years experience in a senior role within a TH.
Deputy Incident Commander	
Safety Officer	Industry qualification in the application of safety/WHS systems with 5+ years experience.
Federal Liaison Officer	Familiarity with the Australian oil spill response arrangements; familiarity working with Federal, State/territorial or Local Government agencies.
State/territorial Liaison Officer	Familiarity with the Australian oil spill response arrangements; familiarity working with Federal, State/territorial or Local Government agencies.
Local Liaison Officer	Familiarity with the Australian oil spill response arrangements; familiarity working with Federal, State/territorial or Local Government agencies.
Environment Unit Lead	Tertiary qualifications in environmental science, as they relate to the marine environment; 5 + years expertise in the development and acceptance of EP's and OPEPs in the Australian upstream TH environment.
Historical & Cultural SME	Tertiary qualifications in environmental science, as they relate to the marine environment; and/or cultural heritage experience specific to the Dampier archipelago, surrounding islands, waters and coastlines.
COP Display / GIS Expert	Tertiary qualifications in the IT; experience in developing and implementing information layers in a "Common

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Position	**Recommended qualifications, skills or experience**
	Operating Picture" through an online hosted platform (ArcView, etc) available for remote access.
Planning Demobilisation Unit Lead	Experience in the process of demobilisation through either significant natural or man-made emergencies; or knowledge and skills gained through exercises and training.
Air Operations Branch Manager*	3+ years experience in the development and implementation of air operations plans in the Australian upstream O&G environment; or equivalent experience demonstrated through civilian or defence aircraft command and control.
Marine Operations Branch Manager*	3+ years experience in the development and implementation of marine operational planning in the Australian upstream O&G environment; or equivalent experience demonstrated through civilian or defence marine command and control operations.
Source Control Branch Director	3+ years experience in the development and implementation of source control plans in the Australian upstream O&G environment; or equivalent experience.
Facilities Unit Lead	3+ years experience in the management of facilities.
Equipment Manager	3+ years experience in the servicing and provisioning of O&G field campaigns (logistics FOB) for the service, repair, and consumables for plant and equipment; land and marine platforms.
Communications Unit and (IT) Manager	3+ years experience supplying and supporting systems for the use of ICT with an O&G; or remote operational industrial organisations; or emergency services/defence forces.
Medical Unit Lead (includes infection control – COVID)	Qualifications appropriate for registration in the State of WA/Northern Territory as a Registered Nurse or General Practitioner (Doctor); with expertise in the development and implementation of a CovidSafe Disease Management plan.
Finance Section Chief*	Financial Qualifications appropriate to gain qualification as a CA or CPA in Australia; or other qualifications and experience deemed suitable by ENI to act as the financial point of accountability and to run financial systems during the response.
Procurement Unit	3+ years experience of procurement expertise in the O&G environment; prefeed experience in the resourcing emergency incidents/budget.
Compensation Unit	Experience in the administration, handling and processing of claims for compensation/insurance,

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Position	**Recommended qualifications, skills or experience**
	preferably in the O&G industry or through emergency management events.
Administration & Records	3 + years experience in establishing and working in administrative systems for the support of other functions within an office environment.
FOB Leader	3+ years experience in management of response operations for the oil and gas industry. Familiarity with the requirements for each of the response strategies
Deputy Fob	
Safety Officer	Industry qualification in the application of safety/WHS systems with 5+ years experience.
Aerial Base Manager	3+ years experience in air base operations and completion of the following courses AIIMS Air Base Manager, Firebombing Load Supervisor, PUAFIR408B - Plan Aircraft Operations, PUAFIR313B - Operate Aviation Support Equipment, PUAFIR209B - Work Safely Around Aircraft
Aerial Observer - Oil monitoring	Training and experience in the application of the skills required for observing and quantifying spills and calculating volumes from aircraft.
Marine Base Manager	3+ years experience in the development and implementation of marine operations in the Australian upstream O&G environment; or equivalent experience demonstrated through civilian or defence marine command and control operations.
C&R Team Leads	3+ years experience leading response teams in the implementation of Offshore C&R equipment from vessels.
Shoreline Ops Manager	3+ years experience developing and managing shoreline operational activities within an oil spill response environment.
Scat team leads x 4	3+ years experience leading SCAT operations for a response to an incident.
TRP team leads x 3	3+ years experience managing on ground operations associated with spill response activities, particularly shoreline response activities.
Shoreline response Team Leads	3+ years experience managing shoreline operations associated with spill response activities
Waste Management Coordinator	Qualifications and experience associated with the appropriate management and disposal of waste generated by an oil spill response activity.

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Position	**Recommended qualifications, skills or experience**
OW Coordinator	3 + years experience in the management of operations associated with the deployment of an oiled wildlife response
Rehabilitation Facilities Management	Specialist experience in the establishment and management of an efficient and effective oiled wildlife response facility

4.8 The exercises and testing arrangements of the OPEP can be used to fulfil functional specific training requirements, as well as to assure trained personnel are fit for purpose. Half day sessions, tool box talks, single scenario workshops, operational drills and the like can be used with groups or individual IMT and OT members to ensure that they (1) have the skills and (2) are able to demonstrate capability and competency in the task. Remedial training / skills qualification sessions can be used to fill gaps post exercise.

4.9 For those individuals who may have an immediate response need, (the team on roster) training will be delivered prior to the commencement of activities. For surge/backup pools of human resources just-in-time training can be delivered to ramp up this level of competency as required prior to undertaking IMT and OT functions. This may be delivered remotely, with competence validation (in person) prior to entering the IMT or OT.

4.10 The training pathways will be based on roles required throughout the IMT and OT as detailed in Table 5.

TABLE FIVE – TRAINING COMPETENCIES FOR IMT AND OT SPECIFIC ROLES

Position	OSPR Intro – Specific to Blacktip OPEP	AMOSC Oil Spill operations (or Course Equivalent to IMO I)	AMOSC Oil Spill Mgt Course (or Course Equivalent to IMO II)	AMOSC Oil Spill C&C Course (or Course Equivalent to IMO III)	Function specific sessional training/ workshop
Incident Commander	Yes			Yes	Yes
Deputy Incident Commander				Yes	Yes
Safety Officer			Yes		Yes
Federal LO					Yes
State/Territorial LO					Yes
Local LO					Yes
Planning Section Chief			Yes		Yes
Documentation			Yes		Yes
Environment Unit Lead			Yes		Yes
Trajectory Forecasting					Yes
Historical & Cultural SME					Yes

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Position	OSPR Intro – Specific to Blacktip OPEP	AMOSC Oil Spill operations (or Course Equivalent to IMO I)	AMOSC Oil Spill Mgt Course (or Course Equivalent to IMO II)	AMOSC Oil Spill C&C Course (or Course Equivalent to IMO III)	Function specific sessional training/ workshop
Response Technical Specialist			Yes		Yes
Resources at Risk			Yes		Yes
Situation Lead			Yes		Yes
COP Display / GIS Expert					Yes
Planning Resource Unit Lead			Yes		Yes
Planning Demobilisation Unit Lead					Yes
Operations Section Chief*			Yes		Yes
Air Operations Branch Manager*			Yes		Yes
Marine Operations Branch Manager*			Yes		Yes
SC Director			Yes		Yes
Relief Well Group Leader					Yes
SIMOPS Group Leader					Yes
Well Contamination Group Leader					Yes
Engineering Support Group Leader					Yes
Logistics Section Chief*			Yes		Yes
Support Branch Director*					Yes
Supply Unit Lead*					
Facilities Unit Lead					
Equipment Manager					
Service Branch Director					Yes
Communications Unit and (IT) Manager					
Incident Comms Centre Manager					
Food Unit Lead					
Medical Unit Lead (includes infection control – COVID)					Yes
Finance Section Chief*			Yes		Yes
Procurement Unit					
Compensation Unit					

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Position	OSPR Intro – Specific to Blacktip OPEP	AMOSC Oil Spill operations (or Course Equivalent to IMO I)	AMOSC Oil Spill Mgt Course (or Course Equivalent to IMO II)	AMOSC Oil Spill C&C Course (or Course Equivalent to IMO III)	Function specific sessional training/ workshop
Administration & Records					
Operations Team					
FOB Leader			Yes		
Deputy Fob			Yes		
Safety Officer			Yes		
Aerial Base Manager	Yes		Yes		Yes
Aerial Observer - Oil monitoring					Yes
Marine Base Manager	Yes	Yes			Yes
Shoreline Ops Manager	Yes	Yes			Yes
Scat team leads (1 per team)		Yes			Yes
Scat Team (3 pax per team – incl 1 wildlife)					Yes
Shoreline response Team Leads	Yes	Yes			Yes
Shoreline Response Team workers					Yes
Shoreline Response Operators					Yes
Waste Management Coordinator					Yes
Waste management responders					Yes
OW Coordinator	Yes				Yes
Reconnaissance Manager					Yes
Rescue and Transport Manager					Yes
Staging and Holding Manager					Yes
Rehabilitation Manager					Yes
Rehabilitation Facilities Management					Yes
Responders					Yes
Specialist support					Yes

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5. References

APPEA (2021) Guidance Document: Incident Management Teams – Knowledge Requirements for Responding to Marine Oil Spills.

ENI (2019) Blacktip Operations Oil Pollution Emergency Plan. 000036_DV_PR.HSE.0388.000.

ENI (2022) Blacktip Offshore Drilling Environment Plan. Oil Pollution Emergency Plan. 000036_DV_PR.HSE.0887.000

IPIECA (2021) Oil Spill Surveillance Planning Guidance. IOGP Report 644

IPIECA (2020) Oil Spill Monitoring and Sampling. IOGP Report 639

IPIECA (2020) Shoreline Response Program Guidance. IOGP Report 635

IPIECA (2019) Oil Spill Preparedness and Response: An introduction. IOGP Report 520

IPIECA (2015) At Sea Containment and Recovery. IOGP Report 522

NatPlan (2021) Novel coronavirus (COVID-19) Disease Management Plan for Oil Spill Response Personnel. Version 3.

RPS (2019) Eni Blacktip Operations EP – Quantitative Spill Risk Assessment. MAW0756J.

Incident Management Team Resourcing Summary

Available Resources

#	IMT POSITION		Justified IMT Structure				ENI	ENI	ENI	AMOSC/CG	AMOSC	Consul	WWC	Waste	Trans/ Logs	NRT	Agency	TOTAL Available	Comment	
			Team 1	Team 2	Night shift	Total Persons Required	Perth/NT	HQ	Indonesia	Per/ Gee	Mut Aid	Zenith/ LPM								
1	IMT Leader (IMO III)		1	1	1	3	2			1								3		
	DEPUTY IC (IMO III)		1	1		2	1			1								2		
2	Health & Safety Officer		1	1		2	2											2		
	Federal Liason Officer		1	1		2	1			1								2		
3	State Liason Officer		1	1		2				2								2		
	Local Liason Officer		1	1		2				2								2		
	PLANNING SECTION CHIEF (IMO II)		1	1	1	3	2			1								3		
	PLANNING: Documentation (LEAD)		1	1		2				2								2		
	PLANNING: Environment Unit (LEAD)		1	1		2	1			1								2	ENI consultants	
		Trajectory Forecasting Lead	1	1		2						2						2	Modelling specialists	
		Resources at Risk	1	1		2				2								2		
7		Historical & Cultural SME	1	1		2						2						2	external specialists	
		Response technical Specialist	1	1		2				2								2		
	PLANNING: Situation (LEAD)		1	1		2				2								2		
		CoP Display/GIS Expert	1	1		2						2						2	GIS external specialists	
	PLANNING : Resource Unit (LEAD)		1	1		2				2								2		
	PLANNING: Demobilisation Unit (LEAD)		1	1		2				2								2		
	SCAT Team Lead		1	1		2				1						1		2		
	Shoreline Response Programme Manager		1	1		2				1						1		2		
	OPERATION SECTION CHIEF (IMO II)		1	1	1	3	2	1										3		
	Air Operations Branch Manager		1	1		2				2								2		
8	Marine Operations Branch Manager		1	1		2				2								2		
	Shoreline Cleanup Commander		1	1		2				2								2		
	Resource Protection Division Commander		1	1		2				2								2		
	Oiled Wildlife Division Lead		1	1		2				2								2		
	Source Control Branch Director		1	1	1	3		3										3	Source Control SME	
	Relief Well Group Leader		1	1		2	1	1										2		
		Well Kill Unit Leader	1	1		2		2										2		
	SIMOPS Group Leader		1	1		2			1			1						2		
		Decontamination and Demob Unit Leader	1	1		2			1			1						2		
	Well Contamination Group Leader		1	1		2	1	1										2		
		Site Survey Unit Leader	1	1		2			1			1						2		
		BOP Intervention Group Leader	1	1		2							2					2		
		Debris Removal Unit Leader	1	1		2			1			1						2		
		Subsea Dispersant Unit Leader	1	1		2			1			1						2		
	Engineering Support Group Leader		1	1		2	1	1										2		
	LOGISTICS SECTION CHIEF (IMO II)		1	1	1	3	3											3		
	Support Branch Director		1	1		2	1										1	2	Logistics SME	
		Supply Unit Lead	1	1		2											2	2	Logistics SME	
		Facilities Unit Lead	1	1		2											2	2	Logistics SME	
		Equipment Manager	1	1		2											2	2	Logistics SME	
9	Service Branch Director		1	1		2											2	2	Logistics SME	
		Communications Unit (IT) Manager	1	1		2											2	2	External specialist	
		Incident Comms Center Manager	1	1		2											2	2	External specialist	
		Food Unit Lead	1	1		2											2	2	specialist support - catering company	
		Medical Unit Lead (includes infection Control COVID)	1	1		2											2	2	specialist support - medical professionals	
	FINANCE SECTION CHIEF		1	1		2	2											2		
10		Procurement Unit	1	1		2											2	2	specialist finance support	
		Compensation Unit	1	1		2											2	2	specialist finance support	
		Admininstration & Records	1	1		2											2	2	specialist finance support	
NEED excl State DoT/s		*Sub-total*	*50*	*50*	*5*	*105*	20	9	5	33	0	11	2	0	0	2	23	*105*	Key	
Need incl State DoT/s			*53*	*61*	*5*	*119*	*27*	*9*	*5*	*38*	*0*	*12*	*2*	*1*	*0*	*2*	*23*	*119*	Night Shift Team	
AVAILABLE		numbers available																	Team 1 - Red Text	1
																			Team 2 - Black text	1
Department of Transport Office - WA																				
1	CMT Liaison Officer		1	1		2	2					[redacted]						2	ENI	
2	Deputy Incident Controller		1	1		2	2											2	ENI	
3	Deputy PIO			1		1	1											1	ENI	
4	Deputy Planning Officer			1		1	1											1	AMOSC/CG	
5	Deputy Intelligence Officer			1		1				1								1	AMOSC/CG	
6	Environmental Support Officer			1		1						1						1	Consultant	
7	Deputy Logistics Officer			1		1				1								1	AMOSC/CG	
8	Deputy Operations Officer			1		1				1								1	AMOSC/CG	
9	Deputy Finance Officer			1		1	1											1	ENI	
10	Deputy Division Commander			1		1				1								1	AMOSC/CG	
11	Deputy Waste Management Coordinator			1		1								1				1	contractor	
			2	11	0	13	7			4		1		1	0	0	0	13		
Department of Transport Office - NT																				
1	Liaison Officer		1			1				1		[redacted]						1	AMOSC/CG	
						1				1		1		1						

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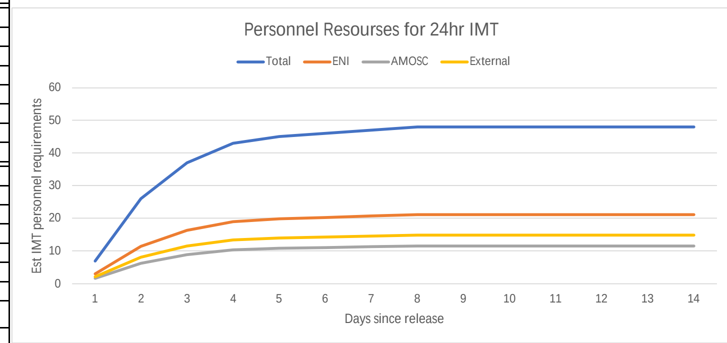

Operational Team Resourcing Summary

Available Resources

#	IMT POSITION		Justified IMT Structure				ENI			AMOSC/CG	AMOSC/	AMOSC		Consul	Waste			Agency	TOTAL Available	Comment
			Team 1	Team 2	Night shift	Total Persons Required	Perth/NT			Perth/ Gee	Mut Aid	wildlife SME/ Dwtech					NRT			
5	FOB Leader - Darwin		1	1		2	1			1									2	
	Deputy Fob		1	1		2	1			1									2	
	Safety Officer		1	1		2	1			1									2	
	Aerial Base FOB Lead - Whyndam - aerial surveillance		1	1		2				2									2	
	Oil spill	Aerial Observer - Oil monitoring	1	1		2				2									2	
	Marine Base Manager - Darwin		1	1		2	1			1									2	
	Shoreline Ops Manager		1	1		2				2									2	
		SCAT team leads	5	5		10											10		10	
		SCAT Team responders (2 per team + 1 wildlife see below)	10	10		20												20	20	unskilled labout
		SCAT Drone Operators	5	5		10								10					10	specialist professional support
		Shoreline response Team Leads		5		5											5		5	
		Shoreline Response Team workers		50		50												50	50	unskilled labour
		Shoreline Response Plant Operators		5		5												5	5	skilled labour

Day																				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
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		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
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			1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2
		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
					2	2	2	2	2	4	4	4	4	5	5	5	5	5	5	5
					4	4	4	4	4	8	8	8	8	10	10	10	10	10	10	10
					2	2	2	2	2	4	4	4	4	5	5	5	5	5	5	5
														2	2	2	2	2	20	20
					20	20	20	20	20	40	40	40	40	50	50	50	50	50	50	50
							1	1	1	2	2	2	3	3	3	4	4	4	5	5

	Waste Management Coordinator			1	1		2									2				2	
6		Waste management responders			10		10												10	10	waste contractors and unskilled labour
	OWR Team	OW Coordinator		1	1		2					2								2	
		Reconnaissance Manager		1	1		2					2								2	
		Rescue and Transport Manager			1		1					1								1	
		Staging and Holding Manager			1		1					1								1	
		Rehabilitation Manager			1		1					1								1	
		Rehabilitation Facilities Management			1		1						1							1	dwyertech
		Responders (incl 5 SCAT)		5	30	5	40						5					5	30	40	wildlife groups and unskilled labour
		specialist support		2	5		7												7	7	specialist professional support
	Need			37	139	5	181	4				7			10	2	0	20	122	181	
	Available																				

			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
							3	3	3	3	3	6	6	6	6	10	10	10	10	10	10
			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
				1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
					1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
							1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
							2	2	2	4	4	4	5	5	12	12	22	22	35	35	35
							2	4	6	8	10	12	14	16	18	20	20	20	20	20	20

0	1	7	9	12	40	49	52	54	58	89	94	97	100	126	132	143	143	156	175	175
0	0	0	0.1	0.1	0.3	0.3	0.4	0.4	0.4	0.6	0.7	0.7	0.7	0.9	0.92	1	1	1.09	1.225	1.23
0	0	0	0.5	0.6	2	2.5	2.6	2.7	2.9	4.5	4.7	4.9	5	6.3	6.6	7.2	7.2	7.8	8.75	8.75
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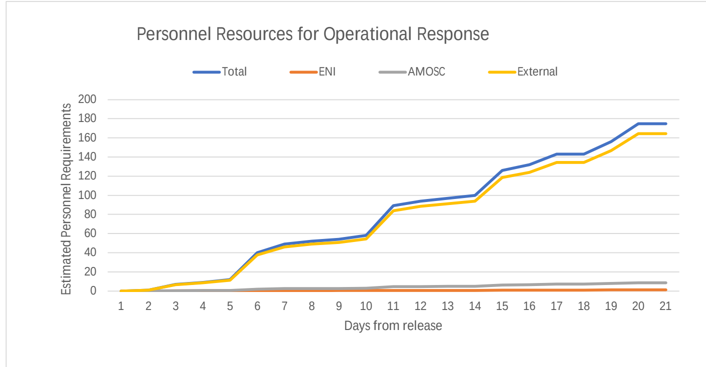

APPENDIX H

SOURCE CONTROL AND IMT CAPABAILITY ALARP DEMONSTRATION

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As part regulatory approval requirements for petroleum activities, the EP and/or OPEP must demonstrate that through the implementation of all reasonable control measures, environmental risks have been reduced to a level that is ALARP. With respect to hydrocarbon spill risk and response planning, this includes an assessment to demonstrate that the oil spill response control measures are reducing risk to a level that is ALARP. The Blacktips EPs include an ALARP assessment for oil spill response control measures and an initial ALARP assessment on the source control strategy for Blacktip LOWC. Response strategies were selected based on the pre-operational NEBA assessment presented in Section 7 of this OPEP. The only source control strategy for Blacktip LOWC is relief well drilling.

This Appendix presents a further ALARP assessment the relief well drilling source control strategy in the event of a LOWC during drilling activities. Additionally, this Appendix also presents an ALARP assessment of the IMT resourcing to implement the source control strategy in the event of a LOWC.

Source control strategies have been reviewed to identify potentially feasible options to improve the reliability and timeliness of the source control arrangements. An overview of the ALARP assessment methodology, which has been adapted from NOPSEMA Guideline Environment Plan Decision Making N-04750-GL1721 Revision 6 – November 2019, for each potential relief well and IMT resourcing strategy is outlined in Table G-1. A summary of the assessment is provided in Table G-2 including a rationale for the effectiveness rankings.

Table G-1: ALARP Evaluation Methodology for Source Control Response / IMT resourcing

Stage	Type of Equipment and Number
Control Measure	Control measure under consideration
Control Measure Status	• Existing: Control measure are already in place. • Alternative: Control measure are evaluated as replacements for the control already in effect. • Additional: Control measures are evaluated in terms of their ability to reduce an impact or risk when added to the existing suite of control measures. • Improved: Control measures are evaluated for improvements they could bring to the effectiveness of adopted control measures.
Control Measure Category	• People (personnel) • Systems (organisation, information/communications, support facilities, training/ competency) • Equipment (equipment) • Procedures (policies, plans and procedures)
Environmental Outcome	Environmental benefit from proposed control measure.
Effectiveness Assessment	The effectiveness of a control measure in reducing the risk to ALARP is evaluated using the following six criteria: • Functionality: Ability of control measure to do what it is what it is required to do to achieve the required risk reduction. • Availability: Whether the control measure will be available when required. • Reliability: Whether the control measure will function correctly when required. • Survivability: Whether the control measure is able to survive a potentially damaging event such as fire or explosion after an incident has occurred and

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Stage	Type of Equipment and Number
	whether the control requires on-going maintenance / replacement to perform. • Independence: Whether the control measure is reliant on other systems in order for it to be able to perform its intended function. Thew below has been used for defining rankings of the above criteria.

Criteria	Effectiveness Ranking	
	Low	**High**
Availability	Equipment / resources not readily available and arrangements are not in place to expedite availability	Equipment / resources is readily available. Either through standby, contracts, arrangements / MoU, internally
Functionality	Control measure does not significantly reduce environmental impact or risk	Control measure can significantly reduce environmental impact or risk
Reliability	Low assurance assigned to success rate of controls	High assurance assigned to success rate of controls
Survivability	Control measure has low operational timeframe and needs to be replaced regularly or revised to maintain effectiveness. May not be operational in event of potentially damaging events.	Control has high operational timeframe and does not regularly need replacement / maintenance / revision. May operate through in potentially damaging events.
Independence	Control measure reliant on other systems in order for it to be able to perform its intended function	Control measure not reliant on other systems in order for it to be able to perform its intended function.

Adapted from NOPSEMA Guidance Note Control Measures and Performance Standards N04300-GN0271 Revision No 4 Last Reviewed 2020

Feasibility / cost	Time, cost and/or effort required to implement the Control Measure
Adopt / reject	Adopt or reject proposed control measure

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Table H-2: Source control and IMT resourcing ALARP assessment

Control Measure	Control Measure Status	Control Measure Category	Environmental Outcomes	Effectiveness Assessment	Feasibility / cost	Adopt / reject
Relief well drilling						
Relief well planning and initiation managed in accordance with the SCRP (refer Section 8.1.2)	Existing	Equipment / Procedures	Allows for rapid initiation of the relief well. The SCRP presents a plan for mobilisation of personnel equipment requirements to expedite relief well drilling. This planning reduces the duration of a LOWC and increases the effectiveness of relief well drilling. Limits or prevents hydrocarbon contacting sensitive receptors.	Availability High. Contract and plans in place. Functionality High. Potential to stop LOWC. Reliability High. Few examples of actual deployment, however planning for relief well is a reliable control. Survivability High. Document requires maintenance. Relief well plan will be updated in the event of actual LOWC Interdependency Low. Requires suitable MODU with safety case.	Effort in updating and maintaining document	**Accept** – Control measure is effective and has minor cost implications.
Purchase wellhead and casing accessories for relief well.	Existing	Equipment	Reduces delays in equipment availability. This planning reduces the duration of a LOWC and increases the effectiveness of relief well drilling. Limits or prevents hydrocarbon contacting sensitive receptors.	Availability High. Equipment available and has been purchased for Blacktip LOWC. Functionality High. Reduces the duration of a LOWC. Reliability High. Commonly used equipment. Survivability High. Wellhead and conductor do not need to be replaced over course of drilling. Interdependency High. Not dependent on other measures.	Cost of purchase, maintenance and storage of supplies	**Accept** – Control measure is effective and has minor cost implications
Purchase tubular stock for relief well.	Improved	Equipment	Potentially reduces the duration of LOWC as relief well drilling time could be shortened. However, in the case of tubular stock, three options are available; stockists with good level of tubular stocks on the ground, local operators and Eni global inventory. Eni Australia has a global contract with Tenaris who the leader in provision of tubular is worldwide. In addition, Eni Australia receives frequent global inventory updates from Eni Natural Resources with regards to surplus materials from other Eni business units. The surplus materials list contains ample tubular inventory, covering well in excess of tubular requirement for one relief well.	Availability High. Equipment available through many means / contracts. Functionality High. Potentially reduces the duration of a LOWC. Survivability High. Stock does not need to be replaced over course of relief well. Interdependency High. Not dependent on other measures.	Effort in contracting, logistics, maintenance, and storage of supplies	**Reject** – High costs, grossly disproportionate to environmental benefit. Necessary tubular widely available through other means / contracts. Pre-purchase would have negligible benefit if any.
Relief well equipment accessible via APPEA Mutual Aid MoU provisions and existing contracts and other support arrangements (e.g.,	Existing	Equipment / Procedures	Reduces delays in equipment availability. Potentially reduces the duration of LOWC as relief well drilling time could be shortened. Limits or prevents hydrocarbon contacting sensitive receptors.	Availability High. Equipment available through many means / contracts. Functionality High. Potentially reduces the duration of a LOWC. Reliability	Procurement and logistics effort	**Accept** – Control measure is effective and has minor cost implications. Relief well equipment / accessories widely used by Australian Titleholders with

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Control Measure	Control Measure Status	Control Measure Category	Environmental Outcomes	Effectiveness Assessment	Feasibility / cost	Adopt / reject
through Eni Natural Resources).				High. Commonly used equipment. Survivability High. Stock does not need to be replaced over course of relief well. Interdependency High. Not dependent on other measures.		stockpiles in Australia accessible via APPEA MoU provisions.
Pre-drill top hole of relief well.	Improved	Procedures / Equipment	Potentially reduces the duration of LOWC as relief well drilling time could be shortened (by approx. 10 days). Limits or prevents hydrocarbon contacting sensitive receptors.	Availability Low. Rig availability to drill top only is low. Functionality High. Would reduce the LOWC event by approx. 10 days. Reliability Low. Drilling top section might result in having to use a sub-optimal design and location. Survivability High. Drilling top section might result in having to use a sub-optimal design and location. Interdependency Low. Requires additional MOCU and safety case EP approvals.	High financial cost ($10 million USD - ~$650,000 per day, plus mobilisation). Other environmental impacts from pre-drilling would occur (e.g., noise, cuttings, and other discharges etc.) Drilling top section might result in having to use a sub-optimal design and location.	**Reject** –There is minimal environmental benefit gained for the grossly disproportionate costs associated with this option. Not a standard practice in the oil and gas industry.
MODU access through APPEA Mutual Aid MoU and other support arrangements (e.g., through Eni Natural Resources)	Existing	Procedures	Reduces delays in MODU availability. Reduced duration of LOWC as relief well drilling time can be shortened. In addition, Eni has exclusive access to the Saipem rigs which provides additional assurance on securing a MODU to drill a relief well.	Availability High. MoU in place. Functionality High. Potentially reduces the duration of a LOWC. Reliability Low. MoU has yet to be tested in Australia. Survivability High. MoU in place. Interdependency Low.	Maintenance of the APPEA Mutual Aid MoU	**Accept** – Control measure is effective and has minor cost implications.
MODU tracking and monitoring	Existing	Procedures / People	Reduced duration of LOWC. Limits or prevents hydrocarbon contacting sensitive receptors. By monitoring MODU availability, Eni has a good understanding of which MODU may be rapidly available for relief well operations in event of LOWC.	Availability High. Eni Natural Resources has a robust Emergency Response team in place with links to logistics for speedy mobilisation. Eni Australia has an open and active communication with Fearnley Offshore who is a global rig broker and have worldwide knowledge on the availability of the rigs in Australasia Functionality High. Potentially reduces the duration of a LOWC. Reliability High. Previously used in Eni activities in Australia and worldwide Survivability High. Interdependency High. Not dependent on other control measures.	Effort spent monitoring MODU availability	**Accept** – Control measure is effective and has minor cost implications.

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Control Measure	Control Measure Status	Control Measure Category	Environmental Outcomes	Effectiveness Assessment	Feasibility / cost	Adopt / reject
MODU on standby in case relief well needed.	Improved	People / Equipment / Procedures	Reduced duration of LOWC. Limits or prevents hydrocarbon contacting sensitive receptors. MODU immediately available to drill relief well.	Availability Low. Difficult to get rig on standby for well duration. Functionality High. Potentially reduces the duration of a LOWC. Reliability Low. Not an industry practice. Survivability High. Interdependency High. However, MODU would require safety case and EP approvals.	~$30-50M USD (~$650,000 per day, plus mobilisation) for MODU on standby MODU would require safety case and EP approvals.	**Reject** – High costs. Grossly disproportionate to environmental benefit
Use of semi-submersible drilling rig to drill a relief well	N/A	Equipment	N/A – not feasible.	A semi-submersible drilling unit is not suitable for at Blacktip wells given the water depth (which is approximately 40 m). The only feasible option is for a jack-up rig	N/A – not feasible.	**Reject** - This strategy is not applicable for the activity given the water depth is too shallow for semi-submersible drilling
IMT resourcing						
Pre-Mobilisation of Source Control Personnel (e.g., WWC)	Improved	People	Elimination the mobilisation time for Source Control Team. Source control personnel expertise is required to manage the LOWC. However, the Source Control Personnel can work remotely during initial phase and then mobilise over time.	Availability High. Personnel available through existing contracts. However not on location. Functionality High. Source control personnel expertise is required to manage the LOWC. Reliability High. Few examples of actual deployment, however, is a reliable control. Survivability Low. Interdependency High. Not dependent on other control measures.	High cost involving pre-mobilisation of Source Control Personnel (e.g., WWC). Is not industry practice and is unlikely to be feasible to pre-mobilise the team.	**Reject** – High costs disproportionate to negligible environmental benefit.
Source Control Team mobilised within 24 hours. Well Control Specialists mobilised within 72 hours. Contracts (e.g. WWC) and APPEA MoU for mutual assistance for relief well drilling. Access to additional resources through Eni Natural Resources.	Existing	People	Reduced duration of LOWC. Limits or prevents hydrocarbon contacting sensitive receptors. Source control personnel expertise is required to manage the LOWC.	Availability High. Personnel available through existing contracts / arrangements. Functionality High. Source control personnel expertise is required to manage the LOWC. Reliability Low. Few examples of actual deployment. Survivability High. Few examples of actual deployment, however, is a reliable control. Interdependency High. Not dependent on other control measures.	Cost of contracts/ MOUs	**Accept** – Control measure is effective and has minor cost implications
Contract source control personnel through an alternative provider in addition to existing arrangements	Improved	People	No environmental benefit if additional services are surplus to requirements.	Availability High. Personnel available through existing contracts / arrangements. Functionality High. Source control personnel expertise is required to manage the LOWC.	Significant additional cost in maintaining two contracts for the same service. Eni already has access to Source control personnel expertise through a variety of channels	**Reject** - No environmental benefit in having access to personnel surplus to requirements. Eni already has access to Source control personnel

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Control Measure	Control Measure Status	Control Measure Category	Environmental Outcomes	Effectiveness Assessment	Feasibility / cost	Adopt / reject
				Reliability High. Few examples of actual deployment, however, is a reliable control. Survivability Low. Interdependency High. Not dependent on other control measures.		expertise through a variety of channels
Relief Well (Source Control) personnel resourcing plan in place, through the SCRP	Existing	People	Reduced duration of LOWC. Limits or prevents hydrocarbon contacting sensitive receptors. Mobilisation Plan for source control personnel included in the SCRP	Availability High. Personnel available through existing contracts / arrangements. Functionality High. Source control personnel expertise is required to manage the LOWC. Reliability High. Few examples of actual deployment, however, is a reliable control. Survivability Low. Interdependency High. Not dependent on other control measures.	Effort in updating and maintaining SCRP document	**Accept** – Control measure is effective and has minor cost implications
Trained IMT personnel within Eni	Existing	People	Reduced duration of LOWC. Limits or prevents hydrocarbon contacting sensitive receptors.	Availability High. Personnel available through existing contracts / arrangements. Functionality High. Trained IMT expertise is required to manage the LOWC. Reliability High. Few examples of actual deployment, however, is a reliable control. Survivability Low. Interdependency High. Not dependent on other control measures.	Effort in maintaining training status within Eni.	**Accept** – Control measure is effective and has minor cost implications
Additional trained IMT personnel to those within Table 5.2	Improved	People	No environmental benefit if additional services are surplus to requirements.	Availability High. Personnel available. Functionality High. Availability of source control expertise can impact on all source control activities. Reliability Low. Few examples of actual deployment (Montara and Macondo). Survivability Low. Potential to change out personnel if Sasanof-1 program delayed by rig availability. Interdependency High. Not dependent on other control measures.	Eni already has access IMT personnel required to meet the response needs.	**Reject** - No environmental benefit in having access to personnel surplus to requirements

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