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Consolidated Oil Pollution Emergency Plan (OPEP)

In the event of a spill, read pages 3 – 10 first.

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Chevron ABU
Consolidated Oil Pollution Emergency Plan (OPEP)

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How to use this OPEP in an event of a spill

Pages 4 to 10 contain alert procedures and initial response actions:

+ OPEP Quick Reference Guide
+ Alert Procedures and Initial Response Actions Guide (Figure A)
+ Initial (First-strike) Response Actions Checklist (Table A)
+ IEMT and PEMT Initial Action Checklist (Table B)

WHY: Sections 1 - 2 contain background information only:

+ OPEP Purpose and Scope
+ Response Document Interface
+ Spill Response Framework (Control Agencies and Jurisdictional Authorities)
+ Spill Response Levels

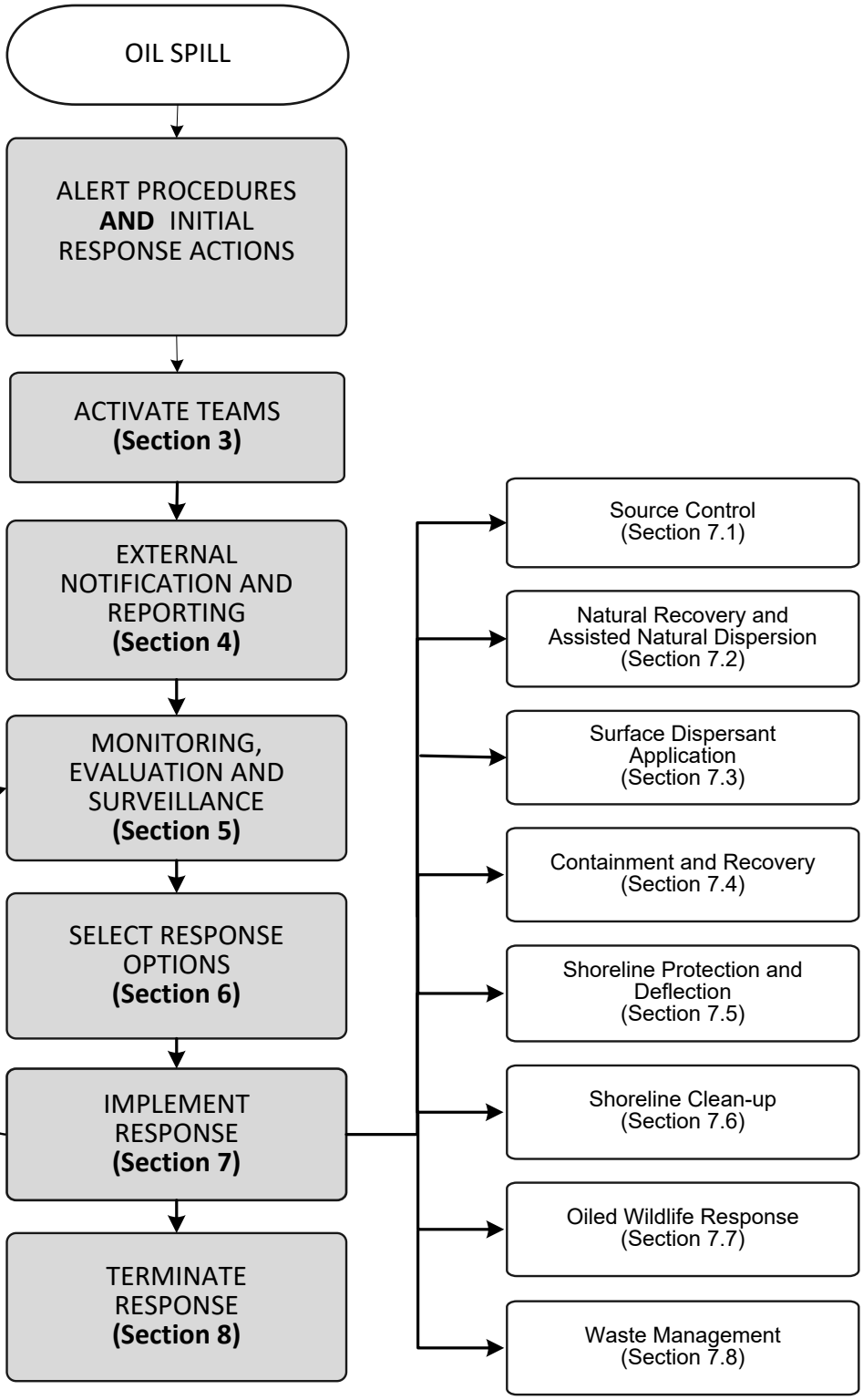
WHAT: Sections 3 - 8 contains process information on what the EMT needs to do when responding to a spill:

+ Emergency Management and IAP Planning
+ Response Team Activation (Internal and External)
+ Notifications
+ Monitoring, Evaluation and Surveillance Overview and Tactics
+ Strategic and Operational NEBA
+ Preliminary Response Option Identification
+ Overview, Tactics and Performance Standards for all Response Options

HOW: Appendix A – Appendix C contains implementation information (guides and checklists) for how the EMT should responding to a spill:

+ Notification Thresholds and Reporting Responsibilities (Appendix A)
+ Monitoring, Evaluation, and Surveillance Implementation Guide (Table B1 in Appendix B)
+ Assisted Natural Recovery Implementation Guide (Table B2 in Appendix B)
+ Surface Dispersant Application Implementation Guide (Table B3 in Appendix B)
+ Containment and Recovery Implementation Guide (Table B4 in Appendix B)
+ Shoreline Protection and Deflection Implementation Guide (Table B5 in Appendix B)
+ Shoreline Clean-up Implementation Guide (Table B6 in Appendix B)
+ CAPL Spill Response Arrangements (Appendix C)

Quick Reference Guide



If an emergency occurs where human safety is at risk, the actions in this document may not be implemented.

Alert Procedures and Initial Response Actions

If an oil spill occurs, the observer and their immediate supervisors must follow procedures to alert on-site and Chevron Australia (CAPL) personnel of the incident. Figure A outlines the **alert procedures and initial response actions**. Table A and Table B help guide response personnel through the initial key steps of this OPEP during a Level 2 (Tier 2) or Level 3 (Tier 3) spill. Further response option information is available in the relevant parts of Section 7.

Table A summarises the initial (first-strike) actions for the **credible spill scenarios covered by the applicable Environmental Plans**. Table B lists the **initial actions to be carried out by the Emergency Management Teams (EMT) (Installation EMT [IEMT] and Perth EMT [PEMT])** once stood up.

A comprehensive ABU Emergency Contact Directory (Ref. 12) lists emergency contact details for all CAPL operations.

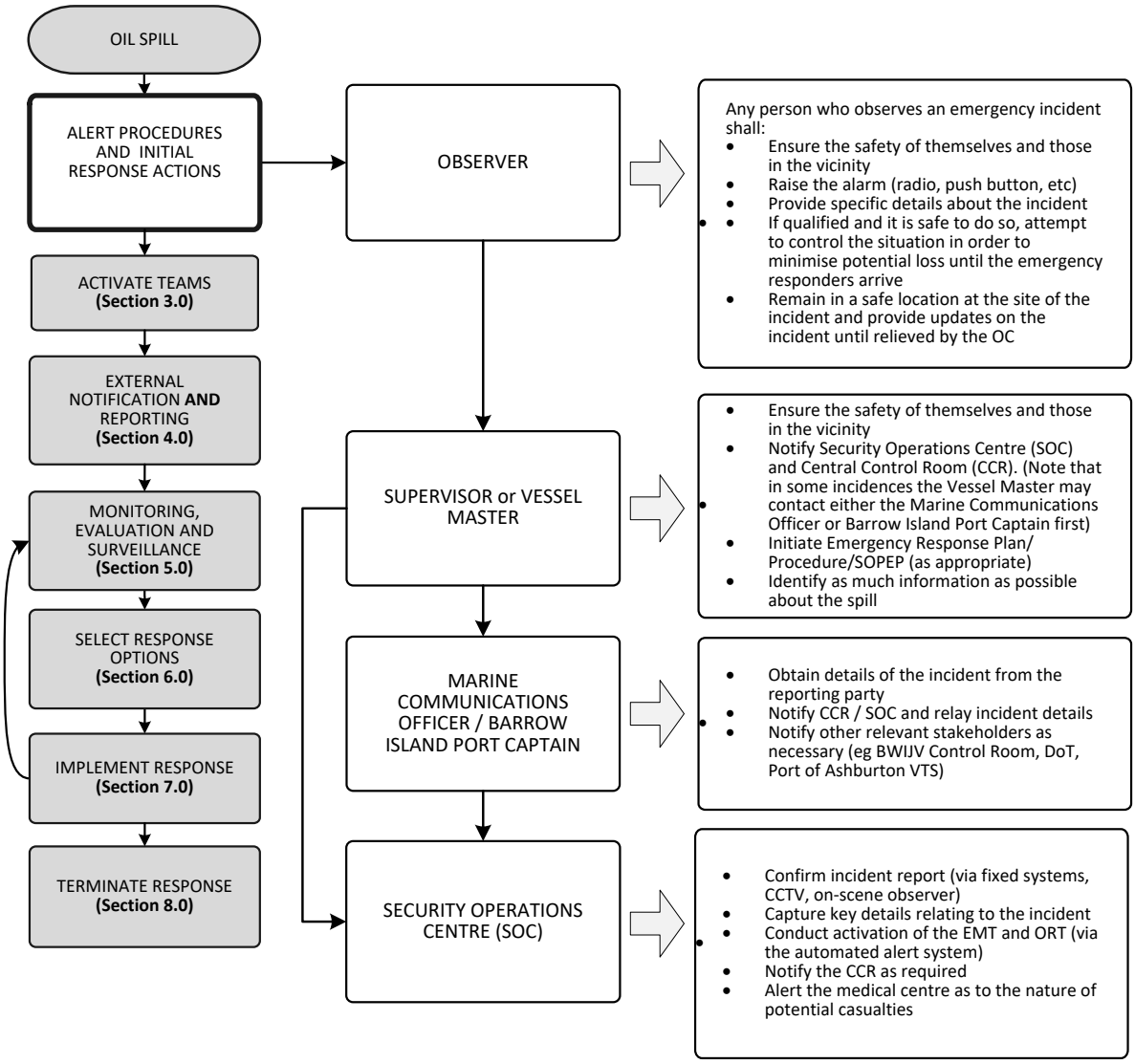


Figure A: Alert Procedures and Initial Response Actions Guide

Table A: Initial (First-strike) Response Actions Checklist – Alert Procedures and Initial Response Actions

Responsibility	Task	Comment	Complete
Observer – first person at scene	Ensure their own safety and the safety of those nearby before taking any actions		☐
	Raise the alarm (radio, tetra, etc.) and provide specific details about the incident		☐
	If qualified and if it is safe to do so, attempt to control the source of the spill	Steps may include: • single-point control (righting overturned container, patching hole in ruptured container, move to secondary bunding, etc.) • transfer equipment control (shut down pumps, close valves, isolate source, etc.)	☐
	Remain in a safe location at the site of the incident and provide updates on the incident until relieved by the On-Scene Commander (OC)		☐
Supervisor / OIM or Vessel Master *(e.g. spills from vessels, spills from or adjacent to offshore facilities, spills from product loading facilities)*	Ensure their own safety and the safety of those nearby before taking any actions		☐
	Take immediate actions to control the source of the spill If source control is not possible, ensure vessel safety by clearing the immediate vicinity of the spill, if possible	Take appropriate steps as described in the relevant Emergency Response Plan (ERP)/Procedure/Vessel Procedures/Shipboard Oil Pollution Emergency Plan (SOPEP) to stop, minimise, or control the escape of oil into the environment.	☐
	In all instances (where possible), notify the relevant Security Operations Centre (SOC) and the Central Control Room (CCR) **Barrow Island SOC: (08) 9184 3581** **Wheatstone SOC: (08) 9184 7444**	Vessel Masters: For incidents that occur within the: • Port of Barrow Island (which includes the Gorgon and BWIJV Projects): Contact either the Marine Communications Officer or Barrow Island Port Captain in the first instance. • Port of Ashburton (Wheatstone Project): Contact the Shipping and Marine Communications Officer (SMCO) in the first instance.	☐

Responsibility	Task	Comment	Complete
	Identify as much information as possible about the spill incident, including but not limited to: • any injuries, other hazards • location and coordinates, if known • oil type • source of oil • volume of spill • spill rate (if applicable) • if controlled or continuing to spill • weather, tide, and current details • any nearby habitat/shoreline type, proximity to inland waterways, etc. • apparent trajectory of the spill	Information to help identify the oil type includes: • signs on nearby tanks or pipelines from which the substance could have originated • labelling on packaging • visible sheen on water surface • vessel's Oil Record Book (if relevant; contains information on volumes and content in each tank) • Safety Data Sheets	☐
	For all vessel spills in Commonwealth Waters, regardless of whether the vessel is engaged in a petroleum activity or not, verbally notify Australian Maritime Safety Authority (AMSA), **as soon as practicable**, to inform them of the incident	Refer to Table A1 for verbal and written reporting requirements, including links to POLREP forms. When preparing the POLREP [1], provide as much information as possible	☐
	For all spills from facilities or vessels engaged in petroleum activities (see Section 2.1), verbally notify NOPSEMA **as soon as practicable and within 2 hours**, to inform them of the incident	Refer to Table A1 for verbal and written reporting requirements	☐
	For all spills in State Waters, or moving towards State Waters, verbally notify the Western Australian (WA) Department of Transport (DoT), **as soon as practicable**, to inform them of the incident	Notify WA DoT Maritime Environmental Emergency Response Unit (MEER) and provide a POLREP as soon as possible. Refer to Table A1 for verbal and written reporting requirements	☐
Shipping Marine Communications Officer / Barrow Island Port Captain	Contact the SOC and the CCR and relay the incident details	On Barrow Island and where the report has come through the Marine Communications Officer, notify the Barrow Island Port Captain and relay the incident details	☐
	For vessel incidents, collect all relevant details from the reporting party	Information to collect includes location, metocean conditions, and vessel pre-arrival information (fuel tank volumes and products)	☐

[1] Some details may be limited in the initial POLREP. Aim to get the initial report submitted as soon as possible and follow up with more detail as it becomes available.

Responsibility	Task	Comment	Complete
(For spills within State or Port Boundary Waters)	Notify other relevant stakeholders as necessary (BWIJV Control Room, DoT, Port of Ashburton VTS, etc.)	Refer to Table A1 for verbal and written reporting requirements	☐
	Begin to work through the First Strike Action Checklist	• Wheatstone IEMT OSR First Strike Checklist (Appendix E, Ref. 56) • Barrow Island IEMT OSR First Strike Checklist (Appendix E, Ref. 57)	☐
	If required, contact Svitzer Tugs and place them on standby for a response		☐
	If required, contact the Warehouse and Supply Chain Management Superintendents and place them on standby for a response (equipment and logistics)		☐
SOC and the CCR Supervisor	Capture key details relating to the incident from the reporting party	Confirm the incident report (via fixed systems, closed-circuit television [CCTV], on-scene witness)	☐
	Activate, via the automated alert system, the ORT, and/or the relevant EMTs		☐
	If required, initiate emergency shutdown and depressurise or isolate (process, power, water, etc)	Initiate remotely activated systems (if required)	☐
On-Scene Commander (OC)	Confirm the nature and location of incident with the SOC or CCR		☐
	Establish the Command Post (CP) upwind of the incident and establish site control by securing the perimeter where practicable	Conduct risk assessment; assess the nature of the emergency, and safe approach routes to determine the potential CP location	☐
	Communicate directly with Emergency Response Team (ERT) members upon deployment to the incident scene and confirm resource/equipment requirements		☐

Table B – IEMT and PEMT Initial Action Checklist

Note: The IEMT should provide this checklist to the PEMT when each SITREP is issued and when incident control is handed over from the IEMT. These tasks should be carried out until the first planning meeting, when objectives, tactics, and further actions will be developed.

Responsibility	Task	Comment	Complete
Planning Section Chief	Determine relevant regulatory plans (EPs, Safety Cases etc.) and obtain a copy	Flesh out performance standards and their timing requirements related to a spill and ensure they are included when developing the Incident Action Plan (IAP) Performance Standards are contained within asset specific Environment Plans (EPs) and this OPEP	☐
Incident Commander (IC)	Receive and evaluate initial incident report Take control of the incident Confirm the category of the incident and determine whether the Level 3 EMT should be partially or fully activated	Establish the emergency management structure for the incident Communicate with the OC to receive information on the incident category and potential	☐
IC / Planning Section Chief	Determine the Control Agency and Jurisdictional Authority framework based on the source and location of the spill	Refer to Section 2.1 and Table 2-1	☐
Planning Section Chief	Determine what external notifications have been made by the IEMT and other relevant parties (e.g. Vessel Master)	Refer to Table A1 for verbal and written reporting requirements Populate ICS Form – Notification Status Report with all notifications made	☐
IC	For Level 2–3 spills, notify and place on standby oil spill response organisations (e.g. Australian Marine Oil Spill Centre [AMOSC], Oil Spill Response Limited [OSRL]) and any other support organisations (e.g. monitoring providers)	Refer to Table 2-2 AMOSC Duty Officer: 0438 379 328 (request Core Group availability [management and operations]) OSRL Duty Officer: +65 6266 1566	☐
IC	EMT IC to engage with the Crisis Advisor who will in turn liaise with Crisis Management Team (CMT) if required. Notify the CMT of incident		☐

Responsibility	Task	Comment	Complete
Planning Section Chief / Environmental Unit Lead (EUL)	Understand the hydrocarbon characteristics and how it will behave and weather Discuss results with IC, Operations Section Chief, Situational Leader, and Planning Section Chief	Run ADIOS2 if required. Download ADIOS software from GIL Options Panel if required Details on ABU products can be found in Chevron ABU – Oil Properties and Dispersion Application Applicability (Appendix E, Ref. 58)	☐
Planning Section Chief / Operations Section Chief / Logistics Section Chief	Begin Monitor, Evaluate, and Surveillance (MES) activities to gain situational awareness (Section 5 in this OPEP has a detailed response guide, which should be used by the EMT in the event of a Level 2/3 spill) Use data to begin to build the Common Operating Picture (COP)	Key tasks include: • Fate and trajectory modelling • Surveillance programs (aerial- and vessel-based) • Metocean and weather data collection • Tracking buoys • Satellite tracking Ensure the Logistics Section Chief (and wider EMT in general) are notified of any support requests	☐
Planning Section Chief / EUL	Identify sensitive resources at risk, based on the nature and scale of the spill	Fill out the ICS-232 Form (Sensitive Receptors) and notify the Operations Section Chief of results	☐
EUL	Review the strategic net environmental benefit analysis (NEBA) in the OPEP (Section 6.4.1) and commence operational NEBA (Section 6.4.2) using the standard template (Appendix E, Ref. 67)	Consult with Operations Section Chief to understand timing requirements for when the operational NEBA will be required (e.g. before the Preparation for Tactics Meeting, Tactics Meeting	☐
EUL	Implement the Operational and Scientific Monitoring Plan (OSMP; Ref. 8)	Consult the OSMP's Quick Reference Guide (Appendix E, Ref. 59) or applicable components and implementation guidance	☐
Operations Section Chief	Confirm which first-strike response activities have begun on site Continue to liaise with the OC for ongoing first-strike response activities and brief the IC / EMT as needed		☐
EUL	Begin working through the PEMT EUL EMT Checklist – Oil Spill (Appendix E, Ref. 60)	Determine who from the EUL Team you need support from and make contact Contact the Oil Spill Response Coordinator (0439 191 853)	☐

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1 Introduction

1.1 Purpose

This Oil Pollution Emergency Plan (OPEP) outlines specific emergency response options and tactics to respond effectively to an oil spill, should a spill occur where Chevron Australia Pty Ltd (CAPL) is the Nominated Titleholder (Commonwealth) or Operator (State). This document is applicable for all of CAPL's operations and is to be used for each Environment Plan (EP) that is submitted to NOPSEMA and DMIRS following this document's initial acceptance.

The objectives of this OPEP are to:

- clearly define the oil spill emergency response arrangements and capabilities that are in place for CAPL's Australian Business Unit (ABU) activities
- guide CAPL emergency management teams (EMTs) on emergency response option selection and implementation
- detail the arrangements and capabilities in place to monitor, evaluate, and survey oil pollution to inform response options
- outline the arrangements and capability that will be in place for monitoring the effectiveness of response options and ensuring that the Environmental Performance Objectives (EPO) (as detailed in CAPL EPs) are met.

This OPEP addresses the requirement for an Oil Spill Contingency Plan under the State and Commonwealth legislation:

- Western Australian (WA) Petroleum (Submerged Lands) (Environment) Regulations 2012
- WA Petroleum and Geothermal Energy Resources (Environment) Regulations 2012
- WA Petroleum Pipelines (Environment) Regulations 2012 (referred to collectively as Petroleum [Environment] Regulations 2012)
- Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009 (OPGGS(E)R).

1.2 Scope

This OPEP covers the response to Level 2 and 3 marine hydrocarbon releases to marine or coastal waters from assets / activities within the north-west region of WA that are under the operational control of the ABU (see Figure 1-1). Project-specific emergency conditions are defined in each of CAPLs activity-specific EP's and are summarised in Table 1-1.

Table 1-1: Summary of Operating Assets Covered by this OPEP

Asset	Infrastructure Summary	Spill Scenarios
Wheatstone (Development and Production)	Producing and infill wells, and the Wheatstone Platform, all located within Commonwealth Waters; Commonwealth and State Waters components of the trunkline; Marine Terminal area at Ashburton North	Spill scenarios include: • the release of marine diesel oil (MDO), intermediate fuel oil (IFO), or Heavy Fuel Oil (HFO) at all asset locations, including CAPL's operations within the Port of Ashburton and in adjacent waters including the Port of Onslow

Asset	Infrastructure Summary	Spill Scenarios
		• the loss of condensate and produced fluids from the hydrocarbon system, including wells and trunkline • an oil, gas, or condensate release arising from a LOWC event during drilling and completions of infill wells (not yet scheduled) or production well intervention activities
Gorgon (Development and Production)	Producing wells and future production wells in Commonwealth Waters; Commonwealth and State Waters component of the feed gas pipeline; liquefied natural gas (LNG) jetty on Barrow Island; Gorgon domestic gas (DomGas) pipeline including pipeline and subsea installation and pre-commissioning	Spill scenarios include: • an MDO/HFO spill arising from a vessel collision or grounding or failure of the mobile offshore drilling units (MODUs) in Commonwealth Waters • the release of MDO or HFO from vessels operating within the Port of Barrow Island or adjacent State Waters • a Gorgon or Jansz condensate leak arising from a major defect in the production pipeline (in scope for both State and Commonwealth Waters) • a Gorgon or Jansz condensate release arising from a loss of well control (LOWC) during well intervention, abandonment, or infill drilling (Commonwealth Waters only)
Exploration & Appraisal Drilling (Gorgon, Wheatstone, or other JV / Sole entity)	Exploration or appraisal wells commonwealth or state waters	Spill scenarios include: • An oil, gas, or condensate release arising from a LOWC event during drilling, formation evaluation, well testing or well abandonment • An MDO/HFO spill arising from a vessel collision or grounding or failure of the MODU
Barrow Island Joint Venture (BWIJV)	Exploration and production operations on Barrow Island and surrounding areas; tanker loading line for Barrow Island crude offtake	Spill scenarios include: • failure of the tanker loading line • a spill arising from a vessel collision or grounding
Thevenard Island Retirement Project	Care and maintenance and decommissioning of the no longer operational Thevenard Island facilities. Includes decommissioning of onshore facilities and offshore infrastructure in the waters surrounding Thevenard Island.	Spill scenarios include: • a MDO spill arising from a vessel collision

Further detail on the emergency events for the operating assets listed in Table 1-1 are defined in each activity-specific EP.

Figure 1-1 shows the locations of the operating assets outlined in Table 1-1.

This OPEP covers oil spills to the marine environment (State and/or Commonwealth Waters), where a coordinated response may be required, and supports the Incident Action Planning (IAP) process outlined in Section 3.2.1. It does not cover spills to the terrestrial environment on Barrow Island or Ashburton North, nor does it cover a leak of hydrocarbon gas from the Gorgon DomGas pipeline.

Although Level 1 oil spill events are considered minor by comparison (Table 2-2) and are not addressed in detail in this OPEP, the Alert Procedures and Initial Response Actions listed in Table A apply to all Level 1, 2, and 3 spills until the scale of the emergency is determined. Level 1 spills are addressed in more detail in CAPLs individual EPs.

This OPEP complements, but does not duplicate, the detailed response options and capabilities relating to source control in the event of a LOWC, as detailed in activity specific ABU Source Control Emergency Response Plan (SCERP) and its supporting documents.

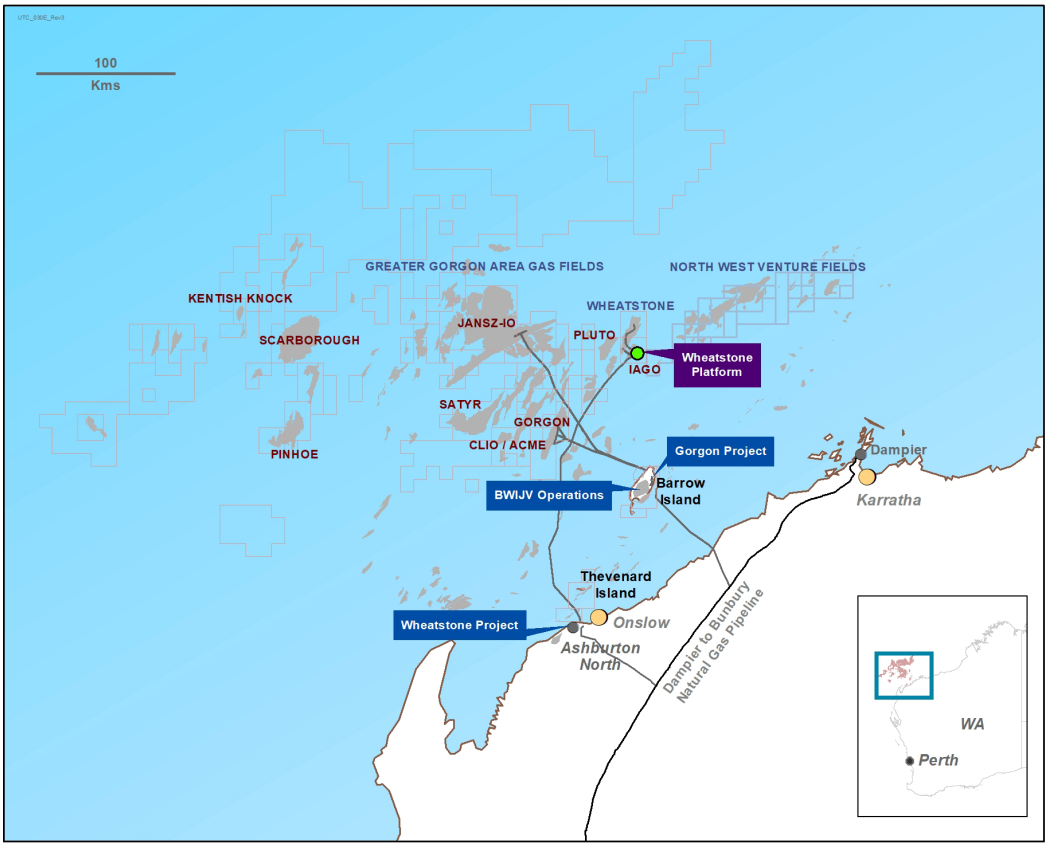

Figure 1-1: Location Overview of Consolidated OPEP

1.3 Response Documentation Interface

This OPEP interfaces with CAPLs EPs, which provide detailed information regarding the existing environment and risks to environmental, socioeconomic, or cultural receptors. The EPs also demonstrate that appropriate management controls are in place to reduce the potential for environmental impacts to occur as a result of operations and maintenance to a level as low as reasonably practicable (ALARP) and acceptable. These EPs also assess response options that will reduce impacts and risks to ALARP and evaluate the potential impact and risks of implementing these response options.

CAPL's hydrocarbon pollution preparedness and response documentation hierarchy is presented in Figure 1-2.

This OPEP is consistent with, and supports, the procedures and resources provided in the CAPL and external documents listed in Table 1-2.

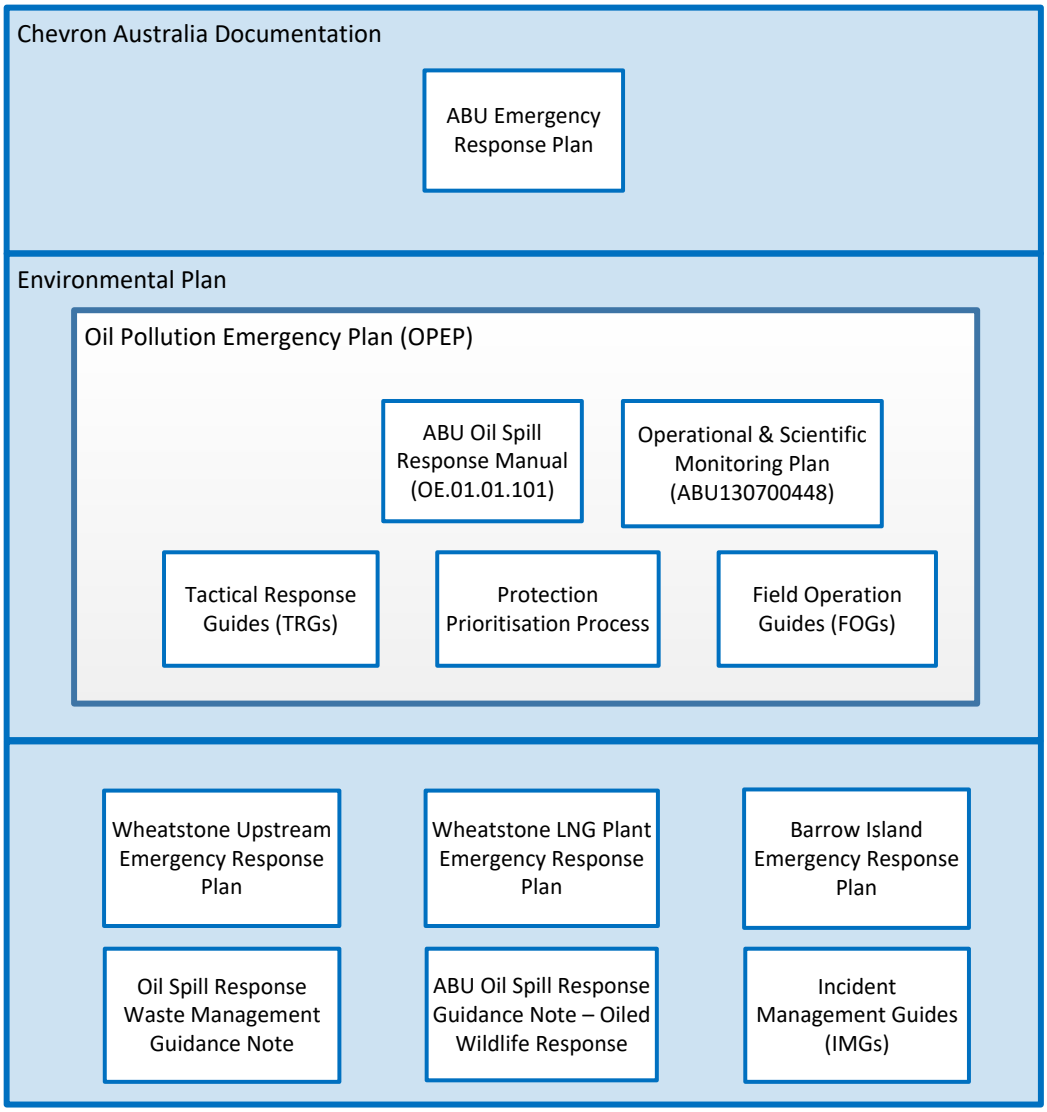

Figure 1-2 Hydrocarbon Pollution Preparedness and Response Documentation Hierarchy

Table 1-2: Documents that Interface with this OPEP

Document Title	Summary of Interface with this OPEP
CAPL Plans	
ABU Emergency Response Plan (ERP; Ref. 14)	This ERP describes the emergency management, governance, and coordination arrangements for the Perth EMT (PEMT) for emergency incidents across the ABU.
Wheatstone Upstream Emergency Response Plan (Ref. 16)	These ERPs describe the emergency management system in place to prevent or mitigate emergency situations; maintain preparedness; respond to incidents safely, rapidly, and effectively; and restore or resume affected operations.

Document Title	Summary of Interface with this OPEP
Wheatstone LNG Plant Emergency Response Plan (Ref. 17)	
Barrow Island Emergency Response Plan (Ref. 18)	This ERP describes the emergency management system in place to prevent or mitigate emergency situations; maintain preparedness; respond to incidents safely, rapidly, and effectively; and restore or resume affected operations. In accordance with conditions extending from the *Barrow Island Act 2003* (WA), the Gorgon Gas Treatment Plant (GTP), BWIJV, and supporting operations provide a joint approach to security and emergency response issues on Barrow Island.
Oil Spill Response Manual (OSRM) (Ref. 15)	The OSRM provides a framework for oil spill response across all CAPL operations, projects, assets, and activities. The OSRM centralises procedures for oil spill response management and is an overarching document that supports the development of OPEPs for CAPL. The OSRM is intended for use by Installation EMTs (IEMTs) and the Asset EMT to support oil spill response management and decision-making.
Operational and Scientific Monitoring Plan (OSMP) (Ref. 8)	The OSMP describes the types of environmental monitoring that may be implemented in the event of an emergency condition that results in an oil spill to marine or coastal waters. The OSMP is the principal tool for determining the extent, severity, and persistence of environmental impacts from an oil spill. It comprises two types of monitoring: operational and scientific.
ABU Source Control Emergency Response Plans (SCERP) – Activity Specific	The activity specific SCERPs provide an integrated and systematic approach to source control incident management that provides the basic policies and procedures designed to guide well operations personnel in the event of a source control incident. Developed and approved on a campaign basis and in accordance with Regulation 14 (8AA)(a) of the OPGGS(E)R, these documents will provide the Source Control Branch within the EMT with guidance and checklists for implementing source control strategies in the event of a LOWC; these strategies may include BOP intervention, well capping, top kills, dynamic well kill with a relief well, subsea dispersant application, etc..
Oil Spill Response Waste Management Guidance Note (Ref. 13)	This guidance note provides CAPL with a rapid planning tool to manage waste generated during an oil spill emergency. In conjunction with the Waste Management Plan (WMP) Template (contained within the Appendices of the Guidance Note) and Decontamination Plan Template (Ref. 10), this guidance note focuses on preventing further health, environment, and safety (HES) impacts; tracking and reporting waste; reducing waste volumes; and treating, recycling, or disposing waste at approved facilities.
ABU Oil Spill Response Guidance Note – Oiled Wildlife Response (Ref. 9)	This guidance note guides oiled wildlife responders in planning, coordinating, implementing, and terminating oiled wildlife response (OWR). Section 7.7 in this OPEP summarises this guidance note, which helps CAPL to: • effectively activate and manage initial response activities relating to OWR • support OWR agencies • conduct OWR in compliance with internal fauna management practices, where practicable. This guidance note is to be read in conjunction with the WA Oiled Wildlife Response Plan (WAOWRP) (Ref. 19) and the Pilbara Region Oiled Wild Response Plan (PROWRP) (Ref. 30), prepared by the WA Department of Biodiversity, Conservation and Attractions (DBCA) and the Australian Marine Oil Spill Centre (AMOSC).
ABU Protection Prioritisation Process (Ref. 38)	This process outlines and ranks the receptors (i.e. values or resources) at risk and helps CAPL understand which receptors should take priority in terms of protection from a spill.

Document Title	Summary of Interface with this OPEP
Incident Management Guides (IMGs)	IMGs provide personnel with written instructions, guidance, and information to help them at the critical early stage of a serious or major incident and provide sufficient hazard information to enable informed decisions on the safety of those responding to the incident. IMGs have been developed for the Gorgon Marine Terminal and BWIJV Tanker (Export) Loading Line.
Field Operation Guides (FOGs)	FOGs contain instructions, position descriptions, checklists, and diagrams. They are used by field personnel who are responsible for emergency response and coordination during both planned events and emergencies.
Tactical Response Guides (TRGs)	TRGs provide ERTs with pre-identified response options and tactics that may suit that particular location in typical conditions. The suggested tactics are intended to be flexible and may be modified to meet the actual circumstances of an incident. Note: In the event of a spill, not all TRGs will be implemented; those sites most at risk will be identified through the operational Net Environmental Benefit Analysis (NEBA) process and prioritised accordingly.
External Plans	
National Plan for Maritime Environmental Emergencies (NATPLAN; Ref. 1)	The NATPLAN sets out Australia's obligations under international conventions with respect to managing maritime environmental emergencies, including national arrangements, policies, and principles.
State Hazard Plan – Maritime Environmental Emergencies (MEE) (Ref. 3).	State Hazard Plan – MEE is the primary State emergency management plan for marine oil pollution (MOP) incidents. It helps the WA Government prevent, prepare for, respond to, and recover from MOP emergencies within the State so as to minimise the effects of MOP incidents occurring in State Waters.
Western Australian Oiled Wildlife Response Plan (WAOWRP) (Ref. 19); Western Australian Oiled Wildlife Response Manual (Ref, 20); and Pilbara Oiled Wildlife Response Plan (PROWRP) (Ref. 30)	The WAOWRP and the Western Australian Oiled Wildlife Response Manual have been prepared in collaboration with the Department of Transport and the Australian Marine Oil Spill Centre (AMOSC) on behalf of the petroleum industry. The Plan establishes the framework for responding to potential or actual oiled wildlife impacts in WA waters, within the framework of an overall maritime environmental emergency and guides OWR agencies (DBCA and the petroleum industry) on how to approach to an oiled wildlife marine pollution incident in WA. The Manual aims to standardise operating procedures, protocols and processes for oiled wildlife response. The PROWRP provides operational guidance to respond to any injured or oiled wildlife resulting from a marine-based spill from any source in the Pilbara region of WA. The PROWRP sits beneath and provides regional context to the WAOWRP.
AMOSC Australian Industry Cooperative Oil Spill Response Arrangements (AMOSPlan; Ref. 27)	AMOSPlan is a voluntary mutual aid plan administered and funded by the oil industry through AMOSC. AMOSC provides guidelines for spill response strategies throughout Australia for member companies and is responsible for hiring and maintaining response equipment and resources at the request of member companies or AMSA.
Subsea Dispersant Monitoring Plan: API Technical Report 1152 (Ref. 23)	CAPL will use the Industry Recommended Subsea Dispersant Monitoring Plan: API Technical Report 1152 (Ref. 23) to monitor and inform the effectiveness and potential impacts of subsea dispersant application (if implemented) during source control.
Pilbara Ports Authority - Port of Ashburton Marine Pollution Contingency Plan (Ref. 31), and Western Australian Department of Transport (DoT) Oil Spill Contingency Plan (Ref. 32)	These plans describe the spill response arrangements for a MOP in either State (DoT) or port authority (PPA) waters. Following a first-strike response from CAPL, and once the Control Agency assumes incident command, the applicable Control Agency will either implement their own Plan or continue to implement CAPL's OPEP.

2 Spill Management Arrangements

2.1 Control Agencies

The responsibility for an oil spill depends on the location and origin of the spill. The NATPLAN (Ref. 1) sets out the divisions of responsibility for an oil spill response, using these terms:

- **Control Agency:** The organisation assigned by legislation, administrative arrangements, or within the relevant contingency plan, to control response activities to a maritime environmental emergency. Control Agencies have the operational responsibility for response and clean-up activities but may have arrangements in place with other parties to provide response assistance under their direction.
- **Jurisdictional Authority:** The agency responsible for verifying that an adequate spill response plan is prepared and, in the event of an incident, that a satisfactory response is implemented. The Jurisdictional Authority is also responsible for initiating prosecutions and the recovery of clean-up costs on behalf of all participating agencies.

Table 2-1 summarises the designated Control Agency and Jurisdictional Authority for Commonwealth and State Waters and for vessel and petroleum activity spills, which is described in detail below.

Commonwealth Waters

These arrangements apply in Commonwealth Waters:

- Petroleum Titleholders are the Control Agency for all spills (Level 1 to 3) from offshore petroleum activities or facilities in Commonwealth Waters. Petroleum activity spills include those from fixed platforms, floating storage and offloading (FSO) systems, MODUs and subsea infrastructure. It also includes vessels undertaking construction, decommissioning, and pipelaying activities in the titleholder's operational area, which are considered facilities. A 'facility' is defined by Schedule 3, Part 1, Clause 4 of the Commonwealth *Offshore Petroleum and Greenhouse Gas Storage Act 2006*.
- The Australian Maritime Safety Authority (AMSA) is the Control Agency for vessel (shipping) spills in Commonwealth Waters from vessels not undertaking offshore petroleum activities, such as vessels undertaking seismic activities, supply vessels, or support vessels.
- As the Titleholder, CAPL will carry out first-strike response activities (e.g. aerial surveillance operations) until AMSA or a nominated NATPLAN agency arrives to assume incident command (as the Control Agency). CAPL will continue to implement the monitoring, evaluation, and surveillance (MES) activities outlined in this OPEP as deemed necessary by the Control Agency.

State or Port Authority Waters

These arrangements apply in WA:

- For MOP incidents in State Waters, the DoT Marine Safety, General Manager is the Hazard Management Agency (HMA) for a MOP emergency and is designated as the State Maritime Environmental Emergency Coordinator (SMEEC) during an actual or impeding MOP emergency.

- Petroleum Titleholders are the first-strike / Control Agency for Level 1 spills in State Waters, unless otherwise agreed with DoT.
- DoT is the Control Agency for Level 2/3 spills in State Waters resulting from an offshore petroleum activity or vessel (in accordance with the State Hazard Plan – MEE [Ref. 3]), . This is regardless of whether the source of the spill is in Commonwealth or State Waters.
- For Level 1 vessel spills within designated port authority limits, the port authority is the Control Agency. For Level 2/3 vessel spills in port authority waters, the Control Agency role may fall with the port authority or DoT; this will be determined by the HMA in consultation with the port authority.
- As the Petroleum Titleholder, CAPL will conduct the first-strike response (e.g. aerial surveillance operations) for all marine pollution incidents in State or port authority waters until DoT or a nominated NATPLAN agency arrives to assume incident command. CAPL will continue to implement the MES activities outlined in this OPEP as deemed necessary by the Control Agency.

DoT has developed an Offshore Petroleum Industry Guidance Note (OPIGN) – Marine Oil Pollution: Response and Consultation Arrangements (Ref. 25), which applies to offshore petroleum activities.

In the event of a MOP incident from CAPL's petroleum activities:

- The CAPL Incident Commander will report the incident to the State Maritime Environmental Emergency Coordinator as part of the 'activation of teams' process.
- DoT will provide a liaison officer to the CAPL EMT who will guide and support CAPL. This deployment may include additional personnel (with various technical or subject matter expertise) to form a liaison team, as agreed between DoT and CAPL.
- In accordance with OPIGN guidance, CAPL will provide a support team to the DoT Incident Management Team (IMT) that will fulfil roles as outlined in Appendix 3 of the OPIGN (Ref. 25); this will include a CAPL Support Team Leader who will be the Petroleum Titleholder Deputy Incident Commander. The initial CAPL support team will comprise ten people (including the Support Team Lead), as stated in Appendix 3 of the OPIGN and internally in the Chevron Australia DoT OPIGN IMT Support Team Implementation Guide (Ref. 26). The ongoing composition of the team will be determined between DoT and CAPL, based on the severity of the spill and commensurate with the level of introduced risk. Figure 2-1 outlines the CAPL support team model.

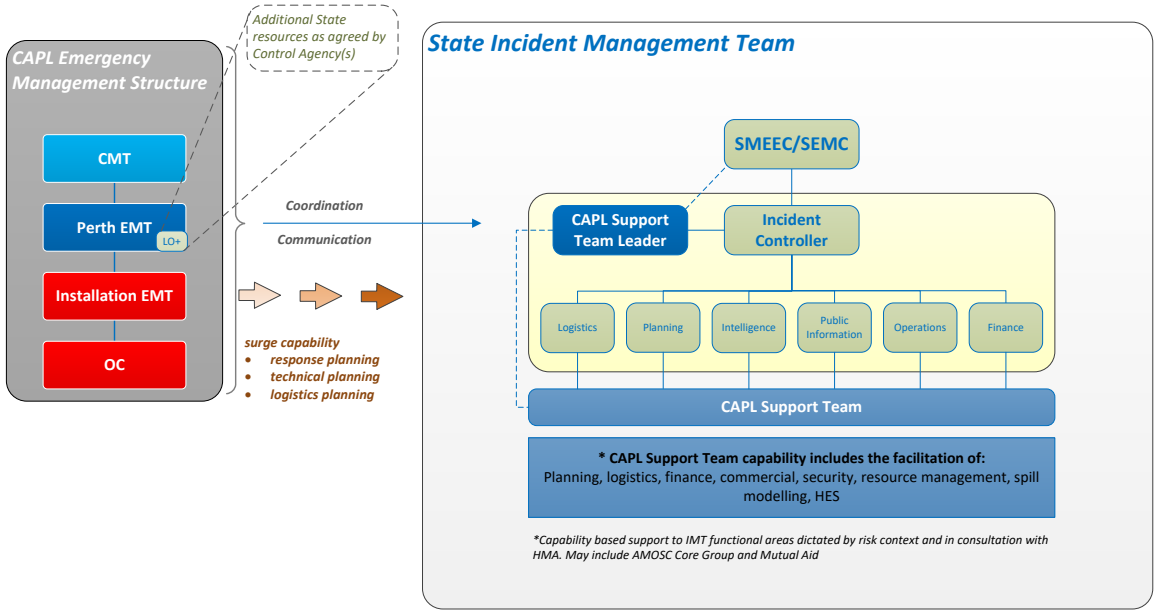

Figure 2-1: CAPL Support Team Model

Figure 3-1 shows the EMT activation process, and how DoT and CAPL would interact during the response operations.

CAPL will comply with legislative requirements regarding cost recovery for oil pollution incidents that may occur as a result of the petroleum activities covered by the EPs.

Table 2-1: Hazard Management Agency and Controlling Agency Arrangements

Jurisdictional Boundary	Spill Source	HMA / Jurisdictional Authority	Control Agency	
			Level 1	Level 2/3
Commonwealth Waters (3–200 nm from territorial/state sea baseline)	Offshore petroleum activity MOP (1)	National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA)	Petroleum Titleholder	Petroleum Titleholder
	Vessel marine pollution (2)	AMSA	AMSA	AMSA
State Waters (waters to 3 nm from the mainland and some areas around offshore atolls and islands)	Offshore petroleum activity MOP	Marine Safety, General Manager, DoT	Petroleum Titleholder	DoT
	Vessel marine pollution	Marine Safety, General Manager, DoT	DoT	DoT
Port Authority waters (gazetted port boundary)	Offshore petroleum activity MOP	Marine Safety, General Manager, DoT	Petroleum Titleholder	DoT
	Vessel marine pollution	Marine Safety, General Manager, DoT	Port Authority	Port Authority / DoT (3)

1. *Includes a 'Facility', such as a fixed platform, FSO, MODU, subsea infrastructure, or a construction, decommissioning, and pipelaying vessel, as defined by Schedule 3, Part 1, Clause 4 of the Commonwealth* Offshore Petroleum and Greenhouse Gas Storage Act 2006.

2. *Vessels are defined by Australian Government Coordination Arrangements for Maritime Environmental Emergencies (Ref. 33) as a seismic vessel, supply or support vessel, or offtake tanker.*
3. *In the event of a Level 2/3 incident in port authority waters, the Control Agency role may fall with the port authority or DoT and will be determined by the HMA in consultation with the port authority. The Control Agency will be the agency deemed most capable of performing that role.*

2.1.1 Multi-jurisdictional Incident Coordination

Multi-jurisdictional incidents (i.e. a Commonwealth and State Waters MOP emergency resulting from the same incident) will be managed in accordance with the NATPLAN (Ref. 1), State Hazard Plan – MEE (Ref. 3),and the DoT OPIGN (Ref. 25).

The coordination arrangements for multi-jurisdictional incident response will depend on the risk, severity, and impact of the incident for each jurisdictional and Control Agency area. The following measures, based on the NATPLAN and DoT OPIGN, may be considered as part of an agreed incident management framework:

- appoint a lead Control Agency or lead EMT for particular response management functions
- establish a Joint Strategic Coordination Committee to direct and prioritise activities, and resolve conflicts
- transition incident control between jurisdictions
- use a coordination plan to formalise the arrangements.

2.2 Spill Level Classification

The incident level will determine where the resources will be drawn from to respond to the spill and the level of incident management needed to manage the response effort. If a spill occurs where effective response is considered beyond the capabilities within a level, the response will be escalated immediately to the next level.

The decision to escalate a response to a higher level (as defined in Table 2-2) will be made by the responsible Control Agency (Table 2-1). If the response level is undetermined, then a worst-case scenario should be assumed when activating resources, as it is always possible to scale down the response effort.

Table 3-3 shows the links between oil spill classification and CAPL's EMT activation.

Table 2-2: Oil Spill Severity and Response

Characteristic	Level 1 Minor or simple	Level 2 Moderate or complex	Level 3 Major, complex / compound
CAPL Emergency Classification			
Teams Involved	**On-site Response Team**		
	Inform Level 2 EMT	**Installation EMT**	
	Inform Level 3 EMT		**Perth EMT**
	Inform Crisis Management Team		**Crisis Management Team**
Type of Emergency			
Type of response	First-strike	Escalated	Campaign
Duration of response	Single shift	Multiple shifts Days to weeks	Extended response Weeks to months
Resources required	Resourced from within one area	Requires intra-state resources	Requires national or international resources
Consequence of Emergency			
People	Potential for serious injuries	Potential for loss of life	Potential for multiple loss of life
Environment	Isolated impacts or with natural recovery expected within weeks.	Significant impacts and recovery may take months. Monitoring and remediation may be required.	Significant area and recovery may take months or years. Monitoring and remediation will be required.
Asset	Minor site or building damage; Negligible damage	Localised substantial damage; Partial to major site shut down	Total loss of production; Total site shutdown
Reputation	Local and regional media coverage	National media coverage	International media coverage

3 Activate Teams

3.1 Response Team Activation

The level of activation of CAPL's EMTs and external resources is tied to the oil spill severity (Table 2-2) and is commensurate with the level of introduced risk. If the spill severity is undetermined, assume the worst case when activating resources, as it is always possible to scale down.

Figure 3-1 and Figure 3-2 show the EMT activation process for spills in or entering State Waters and vessel spills in Commonwealth Waters, respectively. The initial action tables (Table A and Table B) list the activation actions of key on-scene and EMT team members.

3.2 Emergency Management

Emergency management involves managing resources to command, control, coordinate, and manage an effective response. This includes incident management (command and control) of Level 2 and 3 emergency events and on-scene activities to allocate, stage, and direct resources, and minimise significant impacts from on-scene operations. Such management includes, but is not limited to:

- notify, activate, and mobilise resources, plans, and procedures used by the EMTs (e.g. TRGs, IMGs, IAPs)
- activate MES activities (e.g. NEBA) and use initial and ongoing inputs to emergency management and response decision-making
- manage on-scene resources (e.g. response personnel, access routes, staging areas, waste coordination activities)
- engage community and stakeholders (e.g. internal teams, government agencies, response contractors).

CAPL has existing Emergency Command Centres at the Wheatstone Platform, the Wheatstone Gas Plant (Ashburton North), Barrow Island, and Perth and will use the most appropriate ECC or combination of ECCs based on the location and severity of the spill. Potential staging areas include the Wheatstone Gas Plant (Ashburton North), Onslow, and Barrow Island.

3.2.1 Incident Action Planning (IAP) Process

The IAP process ensures that response operations reflect adequate ongoing planning to effectively use resources, develop strategies, and implement response options.

Like all aspects of emergency management and incident command, the process can be scaled to the size and complexity of the incident.

If multi-jurisdictional responses occur, a lead Control Agency status may be appointed in accordance with the NATPLAN (Ref. 1). In these instances, and depending on the severity of the spill, a strategic IAP may be issued that defines high-level objectives, priorities, and resource allocation, with subsequent operational and tactical IAPs developed at the jurisdictional level. Requirements for IAP compilation and approval are to be agreed between Control Agencies.

The IAP process should begin as soon as the response is initiated. The basic steps of the IAP process are:

- Evaluate the situation.
- Develop objectives for the incident.
- Assign resources to achieve the objectives.
- Review and evaluate IAP based on response effectiveness.

Each main emergency management function contributes to this planning process by contributing information, analysis, and direction that is ultimately incorporated into an IAP. The IAP ensures that the EMTs work towards the strategic and/or tactical objectives set during the operational period and ensures a coordinated response. A documented IAP will be developed if these criteria are met:

- the response, clean-up, and recovery are expected to last more than one day
- the response requires shift changes of personnel and/or equipment
- more than one facility, company, or a third party is involved in managing response operations
- response resources from contractors, mutual aid, or external parties are used.

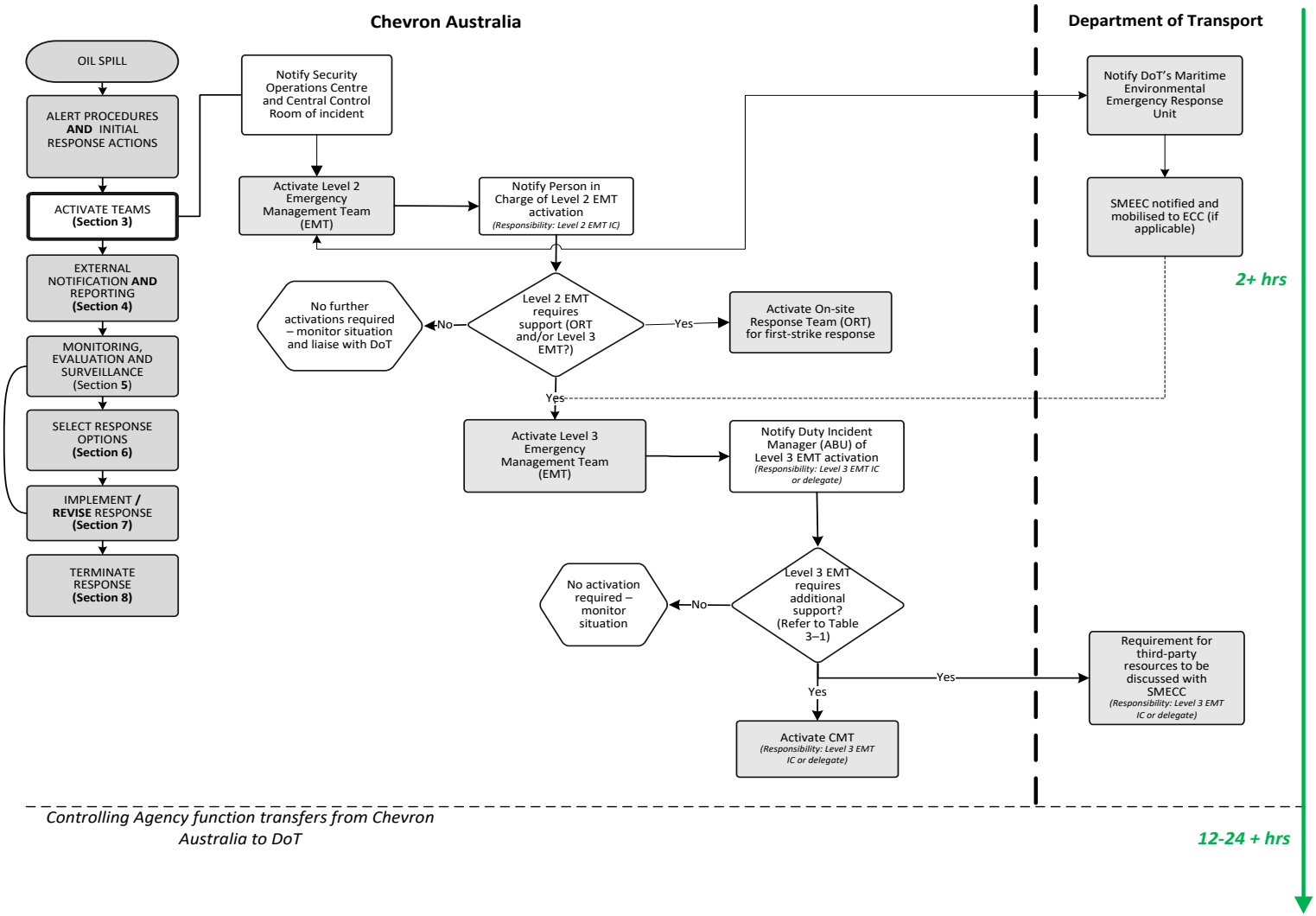

Figure 3-1: Emergency Management Team Activation Guide – Offshore Petroleum Activity Spills (including vessel) Entering or in State Waters

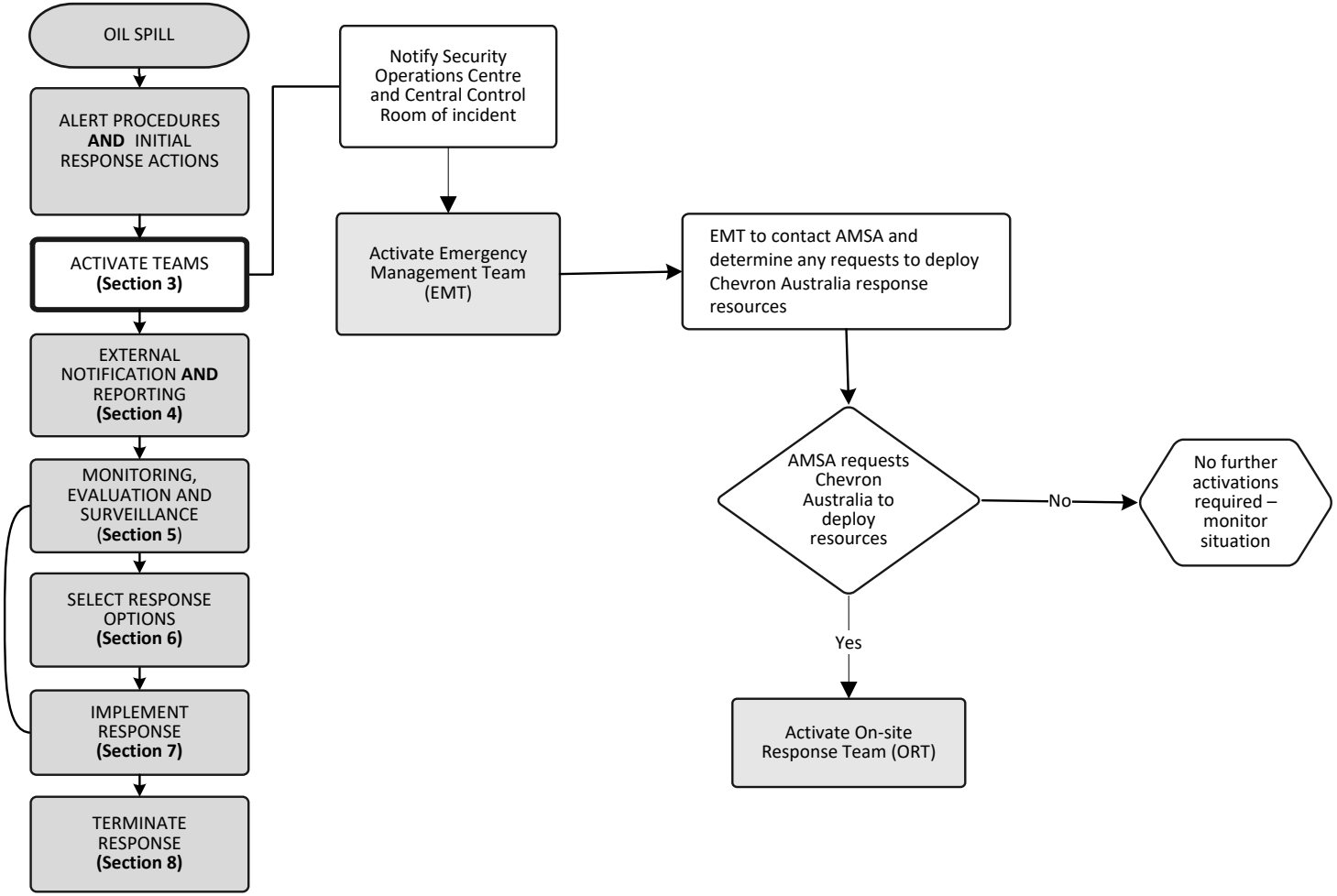

Figure 3-2: Emergency Management Team Activation Guide – Vessel Spills in Commonwealth Waters

3.3 Activation of Internal and External Resources

The EMT can activate several internal and external support agencies if additional support is required to respond to the emergency event. Response resources will be activated either in sequence or simultaneously, depending on the severity of the spill.

3.3.1 Internal Resource Activation

CAPL maintains internal resources (trained personnel and equipment) across its assets that gives it a first-strike response capability and allows it to support an ongoing response. Personnel can fulfil roles in the ORT, EMT, and CMT and receive training for these roles. Table 3-1 provides a summary of CAPL's capabilities and activation procedures for the internal support services across CAPL's assets. For further capability information, refer to Appendix C.

Table 3-1: Activation of Internal (CAPL) Response Resources

Asset / Agency	Support Services
Wheatstone Platform (Common-wealth Waters)	**Platform Emergency Response Activation Procedure**: Platform 24-hour emergency response number: (08) 9184 7777. The ORT has a limited capability for events not occurring on the platform. Support vessels at the platform will have: • satellite tracking buoy. The EMT has Level 2 emergency management capability for incidents involving the platform, hydrocarbon system, and support activities, including: • ECC • communications for notification, activation, and mobilisation activities • scenario-specific IMGs for major accident/incident events. Information on these resources is detailed in the Wheatstone Upstream ERP (Ref. 16).
Wheatstone LNG Plant (Ashburton North)	**Wheatstone LNG Plant Emergency Response Activation Procedure**: Wheatstone LNG Plant 24-hour emergency response number: (08) 9184 7444 The ORT has an initial response capability for events occurring within the LNG Plant boundary, materials offloading facility (MOF), product loading facility (PLF), and surrounding coastline for up to 160 km. The LNG Plant has a stockpile of nearshore and shoreline equipment including: • shore-sealing and sheltered waters boom • dispersant spray system, small quantity of dispersant • nearshore containment booms and sweep system • range of small- and medium-capacity skimmers, pumps, hoses, and power-packs • temporary floating and land-based storage • additional site management and personal protective equipment (PPE). The ORT has a first-strike capability for events originating from the Wheatstone asset and support activities, or potentially affecting the Wheatstone Asset. The EMT has a Level 3 emergency management capability for incidents involving the Wheatstone Asset, LNG Plant, and support activities, including: • ECC • communications for notification, activation, and mobilisation activities • scenario-specific IMGs for all major accident/incident events. Information on these resources is detailed in the Wheatstone LNG Plant ERP (Ref. 17).
Gorgon GTP	**Gorgon GTP – Emergency Response Activation Procedure**: Gorgon GTP 24-hour emergency response number: (08) 9184 3581.

Asset / Agency	Support Services
(Barrow Island)	The ORT has an initial response capability for events occurring within the Gorgon GTP boundary, MOF, PLF, Barrow Island coastline, and incidents with the potential to impact Barrow Island. The Gorgon GTP has a stockpile of nearshore and shoreline equipment including: • shore-sealing and sheltered waters boom • dispersant spray system, small quantity of dispersant • range of small- and medium-capacity skimmers, pumps, hoses, and power-packs • temporary floating and land-based storage • additional site management and PPE. The Barrow Island EMT has Level 3 emergency management capability for incidents involving the Gorgon GTP, Barrow Island Asset, and support activities, including: • ECC • communications for notification, activation, and mobilisation activities • scenario-specific IMGs for major accident/incident events. Information on these resources is detailed in the Barrow Island ERP (Ref. 18).
ABU (Perth)	**PEMT Activation Procedure**: The PEMT has the capability to respond to a Level 3 emergency management incident and access to regional and world-wide support to scale up the response to incidents involving the CAPL operations and support activities, including: • ECC • communications for notification, activation, and mobilisation activities • scenario-specific IMGs for all major accident/incident events.
Chevron Worldwide Emergency Response Resources	**Chevron Corporation's Worldwide Emergency Response Resources Activation Procedure**: Chevron emergency information centre 24-hour number: +1 510 231 0623. These resource teams are available worldwide: • Chevron Advisory and Resources Team • Chevron Asia–Pacific Regional Response Team • Chevron Worldwide ERT • functional teams providing expert and specialised services. Information on these resources is detailed in the ABU ERP (Ref. 14). When Chevron Corporation's worldwide emergency response resources arrive, they are integrated into CAPL's EMTs.

3.3.2 External Resource Activation

CAPL has numerous agreements in place with oil spill response organisations (OSROs) and support organisations involved in storing, maintaining, and mobilising Level 2/3 spill response resources (Appendix C).

OSROs and support organisations that CAPL can call on in the event of a Level 2 or 3 spill are outlined below. The EMT is responsible for activating OSROs and support organisations as outlined in the initial response (Table B), with more detailed activation instructions provided in Table 3-2.

Table 3-2: External Oil Spill Response Agency Support Services and Activation

Support Agency	Support Services
Wild Well Control	**Wild Well Control Activation Procedure:** Drilling Manager (or delegate) contacts Wild Well Control via 24-hour emergency number: +1 281 784 4700 **Expertise, resources, and equipment**: • Preparing blowout contingency plans specific to the business unit • Mobilising well control specialists and engineers to the well site and to the business unit's onshore office • Providing logistics support for well control equipment • Planning and implementing intervention procedures • Planning and drilling relief wells • Designing and implementing dynamic well kills or other special kill procedures.
AMOSC	**AMOSC Activation Procedure**: Initial call (as early as possible) to 24-hour emergency number: 0438 379 328 CAPL is a participating company in AMOSC and can call on AMOSC personnel and equipment to support oil spill response. Under the AMOSPlan (Ref. 27), CAPL can access mutual aid from other company resources (equipment and personnel) within the industry. **Equipment**: AMOSC's stockpiles of equipment include dispersant, containment, recovery, cleaning, absorbent, and communications equipment. Equipment is located in Geelong, Fremantle, and Exmouth. The AMOSC contract also enables activation of fixed-wing aerial dispersant contract (FWADC) capability. A subsea first-response toolkit (SFRT) is located at Oceaneering in Jandakot; this toolkit's 500 m^3 of dispersant for subsea dispersant injection (SSDI) is located at Hamilton Hill. Oiled wildlife equipment available in WA: • 2 OWR kits (Broome, Exmouth) • 1 oiled wildlife container (Fremantle) Additional equipment is based in Geelong, if required.
AMSA	**AMSA Activation Procedure**: Initial request to the Environment Protection Duty Officer via the 24-hour emergency response centre on 1800 641 792 or (02) 6230 6811. This verbal request must be followed by written confirmation within three hours. **Resources**: AMSA maintains nine strategic equipment stockpiles (four in WA [Fremantle, Exmouth, Dampier, and Broome]), including these resources: • aerial surveillance support • dispersants • 2 OWR kits (Fremantle, Karratha) • advisory services and personnel.
WA DoT	**DoT Maritime Environmental Emergency Response (MEER) Unit 24-hour number: (08) 9480 9924** DoT will respond to CAPL's request to mobilise its equipment to respond to an oil spill in State Waters in accordance with the State Hazard Plan – MEE (Ref. 3). **Resources**: • State Response Team, Regional Response Team, and National Response Team for rapid deployment to support CAPL's EMTs • DoT spill response equipment stockpiles are retained in the three main locations around the State (Karratha, Fremantle and Albany).
DBCA	**DBCA Activation Procedure:**

Support Agency	Support Services
	Notify the DBCA State Duty Officer: (08) 9219 9108 DBCA have expert advisors that may provide assistance and guidance to CAPL's EMTs.
OSRL	**OSRL Activation Procedure**: 24-hour emergency number: **+65 6266 1566** (Singapore) CAPL has a contract with OSRL, which includes providing support functions, equipment, and personnel to meet a wide range of oil spill scenarios. **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; these personnel comprise: • 1 senior oil spill response manager • 1 oil spill response manager • 15 oil spill response specialists / oil spill responders • 1 logistics service branch coordinator. Technical advisors and additional response personnel may be provided at CAPL's request and OSRL's discretion. **Equipment and Services**: Equipment will be mobilised from the most appropriate location to provide the most timely and effective response, and includes: • wide range of packaged equipment suited to various spill scenarios, including dispersant and aerial dispersant application systems, with global access to ~5000 m^3 of dispersant • global aerial dispersant coverage (using various aerial platforms and application systems) • logistics support • oil spill modelling and access to satellite imagery. OSRL own, store, and provide the incident owner with the capping stack and dispersant toolkit, which are located at their four bases around the world. OSRL also provide the communications with Oceaneering and Trendsetter. Note: OSRL only provides communications with these companies when OSRL owns the equipment ordered; therefore, if CAPL uses the AMOSC SFRT from Oceaneering in Jandakot, OSRL will provide no contact or communication with Oceaneering for the equipment, as this is owned by AMOSC – see above. Refer to ABU Capping Stack and Subsea First Response Toolkit Logistics and Mobilisation Plan (Ref. 34) for further details.
RPS Group	**RPS Modelling Duty Officer – 0408477196** Refer to the Activate Oil Spill Modelling Request Procedures (Appendix E, Ref. 61) for a quick reference guide for activating spill response modelling procedures with RPS Group. CAPL has an agreement in place with RPS Group to allow rapid marine hydrocarbon spill modelling capability to be activated at any time during activities, for Level 2–3 spills. AMOSC can also run modelling on behalf of CAPL, if required, as part of contracting arrangements with RPS Group
Aircraft providers	CAPL has contracts in place with various aviation providers including Bond Aviation, Cobham Aviation, and other specialist companies. Details of contracted companies are available from CAPL's aviation department.
Vessel providers	CAPL has contracts in place with various marine providers including Mermaid Marine, Svitzer Towage, and other specialist companies. Details of contracted companies are available from CAPL's marine department.
Operational and scientific monitoring providers	These providers deliver the activated operational and scientific monitoring plans for the duration of the monitoring programs. The services from these providers include operational readiness to enable fast deployment of personnel and resources during a response.

Table 3-3 outlines when these external resources may be mobilised, in line with the severity of the spill.

Table 3-3: Activation of External Response Resources

Emergency Response Organisation	Level 1	Level 2	Level 3
Worldwide Emergency Response Resources			
AMOSC			
WA DoT			
AMSA			
OSRL			
WA DBCA			

Key:

	Mobilised		*Possibly or partially mobilised*		*Not likely to be mobilised*

3.3.3 Equipment Availability

CAPL's ABU Oil Spill Equipment Register (Ref. 11) provides CAPL spill responders with an accurate listing of the equipment type and quantity available, and its storage location. The register also includes equipment from other providers that CAPL has access to, including from AMSA, AMOSC, WA DoT, and OSRL. The register is used in conjunction with this OPEP; however, it is maintained separately to ensure it is current.

Table 3-4: Capability – Emergency and On-Scene Management

Response Activity	CAPL		Support Agency and Contractor		Termination Criteria
	Capability	**Implementation Time***	**Capability**	**Implementation Time***	
Emergency Management	**Processes**				
	• Relevant ERP (as per Table 1-2 in Section 1.3), which will be one of: – Wheatstone Upstream ERP (Ref. 16) – Barrow Island ERP (Ref. 18) • OSRM (Ref. 15) • IMGs	Within 2 hours	• AMOSPlan (Ref. 27) • NATPLAN (Ref. 1) • State Hazard Plan – MEE (Ref. 3)	Within 6 hours	Response operations have ceased
	Facilities and Equipment				
	• Wheatstone Upstream Platform ECC • Wheatstone Downstream LNG Plant ECC • Barrow Island ECC • Perth ECC	Within 2 hours	Not applicable (N/A)	N/A	N/A
	Personnel				
	• Wheatstone Platform EMT (Level 2) • Barrow Island EMT (Level 2) • Wheatstone LNG Plant EMT (Level 3) • PEMT (Level 3) • CAPL Support Team	Within 2 hours	• Chevron Regional and Worldwide Response Teams (remote assistance) • AMOSC Advisors • NATPLAN Advisors	Within 12 hours	Response operations have ceased
On-Scene Management	**Processes**				
	FOGs, including: • Standard operating procedures (SOPs) • TRGs	Within 12 hours	N/A	N/A	N/A
	Equipment				
	• CAPL spill response equipment stock (at Wheatstone LNG Plant, Barrow Island, and Dampier)	Within 24 hours	• NATPLAN stocks (Exmouth, Dampier/Karratha, Onslow) • AMOSC equipment (Exmouth, Perth, Geelong)	Within 24 hours	Response operations have ceased
	Personnel				
	• Wheatstone LNG Plant ORT • Barrow Island ORT	Within 12 hours	• AMOSC Core Group • State/National Response Team	Within 24 hours	Response operations have ceased

** For this table, CAPL minimum implementation time commences from when the EMT is mobilised and set up in the Emergency Command Centre (ECC). Support Agency and contractor minimum implementation time commences from when the support agency or contractor is activated by the EMT.*

Table 3-5: Environmental Performance – Emergency Management

Environmental Performance Objectives(s)	Environmental Performance Standard(s)	Measurement Criteria
EPO E1 – Manage personnel and resources through a systematic planning process with competent personnel to protect identified environmental values and sensitivities	**Emergency Management**	
	E1a) CAPL EMT will ensure operational and scientific monitoring is initiated during the initial IAP process.	Records show CAPL EMT initiated operational and scientific monitoring during the initial IAP process.
	E1b) CAPL EMT will ensure initial response is conducted in accordance with planned strategies and strategic NEBA protection priorities as outlined in this OPEP.	Records show CAPL EMT ensured initial response was conducted in accordance with planned strategies and strategic NEBA protection priorities as outlined in this OPEP.
	E1c) CAPL EMT will undertake incident management, including IAP development for each operational period, in accordance with the relevant ERP(s) to identify at-risk values and sensitivities; select response objectives, options, and tactics; and allocate resources to implement agreed response objectives, options, and tactics.	Records show CAPL EMT undertook incident management, including IAP development for each operational period, in accordance with the relevant ERP(s) to identify at-risk values and sensitivities; select response objectives, options, and tactics; and allocate resources to implement agreed response objectives, options, and tactics.
	E1d) CAPL EMT will ensure an operational NEBA is conducted during development and review of IAPs.	Records show CAPL EMT ensured an operational NEBA was conducted during development and review of IAPs.
	E1e) CAPL EMT will ensure the response is terminated in consultation with the relevant Jurisdictional Authority as defined in this OPEP.	Records show CAPL EMT ensured the response was terminated in consultation with the relevant Jurisdictional Authority as defined in this OPEP.
	E1f) IAPs and operational NEBAs will be developed daily, or at a frequency determined by the incident Commander (IC).	Records show that IAPs and operational NEBAs were developed daily, or at a frequency determined by the IC.
EPO E2 – Develop, implement, and maintain emergency response arrangements to ensure continued preparedness for emergency events and assure the ability to implement a response	**Emergency Preparedness**	
	E2a) CAPL will complete an annual capability verification of trained personnel to ensure identified response capability is maintained.	Records show CAPL completed an annual capability verification of trained personnel to ensure identified response capability is maintained.
	E2b) CAPL will complete an annual capability verification of drills and exercises to ensure identified response capability is maintained.	Records show CAPL completed an annual capability verification of drills and exercises to ensure identified response capability is maintained.
	E2c) CAPL will develop, implement, maintain, and annually test contract arrangements for access to third-party service providers and logistics capability.	Records show CAPL has developed, implemented, maintained, and annually tested contract arrangements for access to third-party service providers and logistics capability.

4 External Notification and Reporting

The **EMT Liaison Officer** is **responsible for coordinating all external notifications and reporting**. This task may be delegated to other appropriate members of the EMT, at the discretion of the Liaison Officer and/or IC. Table A1 lists suitable EMT positions that may assist the Liaison Officer with notifications.

Figure 4-1 shows the process for determining the appropriate external notification and reporting requirements for this OPEP. Appendix A lists additional information for external notification and reporting, including relevant legislation and responsible parties, and has links to spill notification and reporting forms. Notifications and reporting should be undertaken by the IC in the EMT (or delegate).

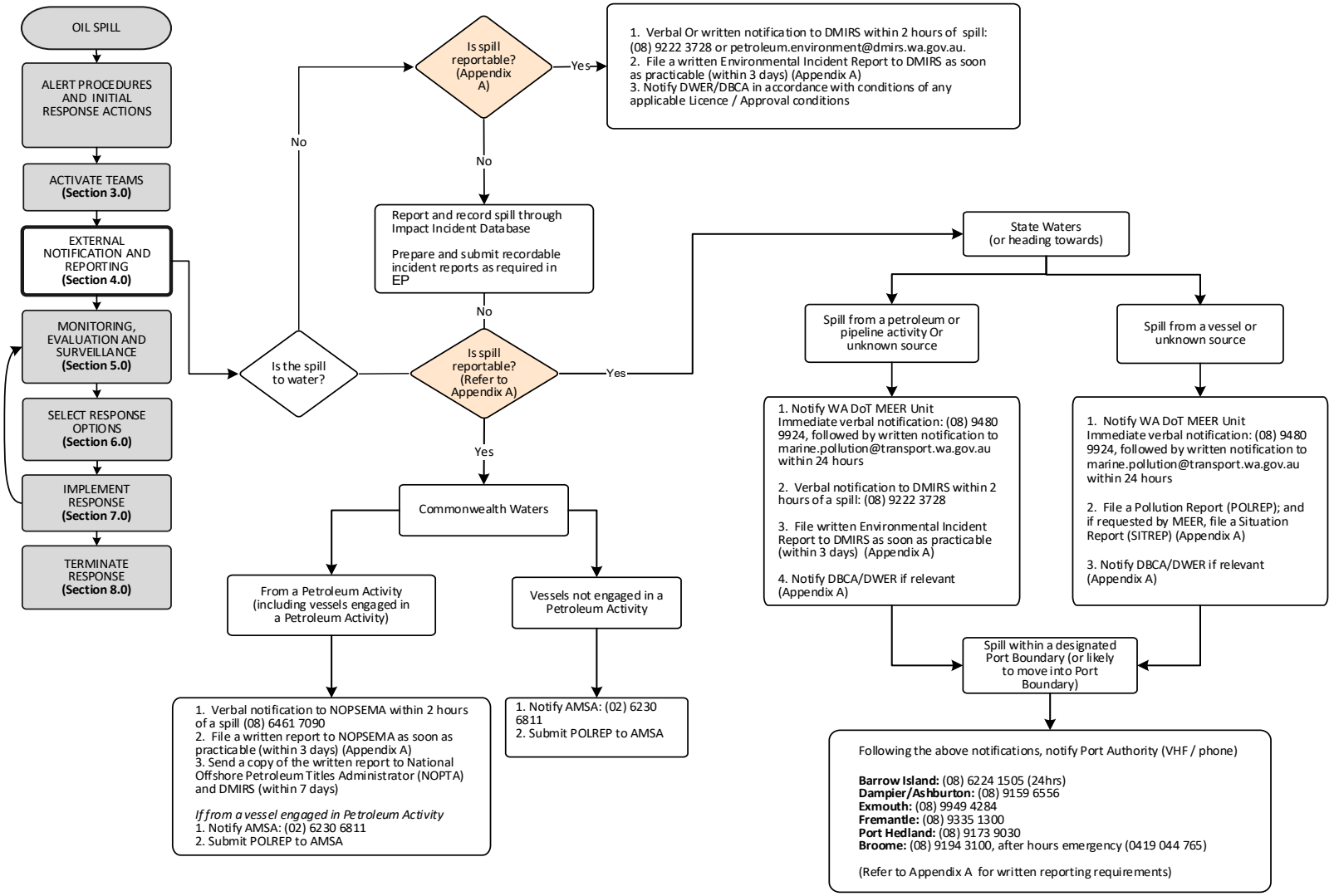

Figure 4-1: External Notification and Reporting Guide

5 Monitoring, Evaluation, and Surveillance

Table 5-1: EMT Information for MES – Objective, Initiation Criteria, and Termination Criteria

Objective	To acquire and maintain situational awareness and assess the effectiveness of response options during a spill event to inform EMT decision-making. This strategy will be implemented continuously for all types of spills.
Initiation criteria	To commence for every spill to water as soon as the spill occurs. This may range from very simplistic visual observation only, through to more involved monitor and evaluate tactics.
Termination criteria	• For visible oil observation, when the spill is no longer visible to surveillance personnel. Specifically, a 'silvery/grey' sheen, as defined by the Bonn Agreement Oil Appearance Code (BAOAC), is no longer observable; or • For subsurface oil observation, when subsurface plume is no longer detected using fluorometry; and • Agreement is reached with Jurisdictional Authorities (i.e. AMSA/DoT) and stakeholders to terminate the incident response.

5.1 Overview

Oil spill MES is important for anticipating resources at risk of exposure, directing response resources, and evaluating the effectiveness of response techniques. Accurate, timely, and ongoing information about a spill's location, extent, and movement is critical to spill response decision-making and provides ground-truthing of spill trajectory modelling.

MES should be conducted throughout the response duration, potentially along with other response options, as determined by the process outlined in Section 6. MES of an oil spill helps determine whether further action is required; helps inform the decision-making for prioritising the protection of sensitive receptors; and provides valuable information for conducting NEBA, coordinating other response options, and continually assessing the effectiveness of those spill response options.

5.2 Tactics

This OPEP includes MES tactics that may be used to evaluate the parameters and potential trajectory of the spill. One or more of these tactics may be used:

- **Fate and Weathering Modelling (FM**) – uses computer modelling and computational techniques to estimate the weathering of an oil spill
- **Trajectory Modelling (TM)** – uses computer models and computational techniques to estimate the speed and direction of movement, weathering spread patterns, and impacts of an oil spill
- **Tracking Buoy Deployment (TB)** – uses a buoy deployed to the water surface to track an oil slick's movement
- **Visual Observation (from aircraft and/or vessels) (VO)** – trained observers on aircraft or vessels use standard references to characterise oil slicks. VO is the most common surveillance and reconnaissance tactic
- **Remote Sensing (RS)** – uses remote sensing technologies to identify oil slicks.

The OSMP (Ref. 8) is triggered when initiation criteria for the various assessment components are met. Those MES tactics associated with protecting environmental receptors are addressed in the OSMP, and include:

- oil characterisation
- chemical dispersant efficacy assessment
- oil in water assessment
- oil in sediment assessment
- rapid (oiled) shoreline assessment
- rapid seabird and shorebird assessment
- rapid marine megafauna assessment
- fish tainting assessment.

Initiation and termination triggers for those tactics are detailed in the OSMP.

Figure 5-1 outlines the process for selecting MES tactics. If multiple tactics are applicable and feasible, they should be implemented.

Table 5-2 lists environmental performance objectives, standards, and measurement criteria. The resource capability required to implement this strategy is included in Appendix C (Table C1), which outlines the spill response capabilities and arrangements that CAPL has in place across the business.

5.3 Implementation

Table B1 (in Appendix B) guides the ORT, IEMT, and EMT on tasks and responsibilities that should be considered when implementing this response strategy. The IC is ultimately responsible for implementing the response and therefore, depending on the circumstances of the spill, they may determine that some tasks be varied, should not be undertaken, or should be reassigned.

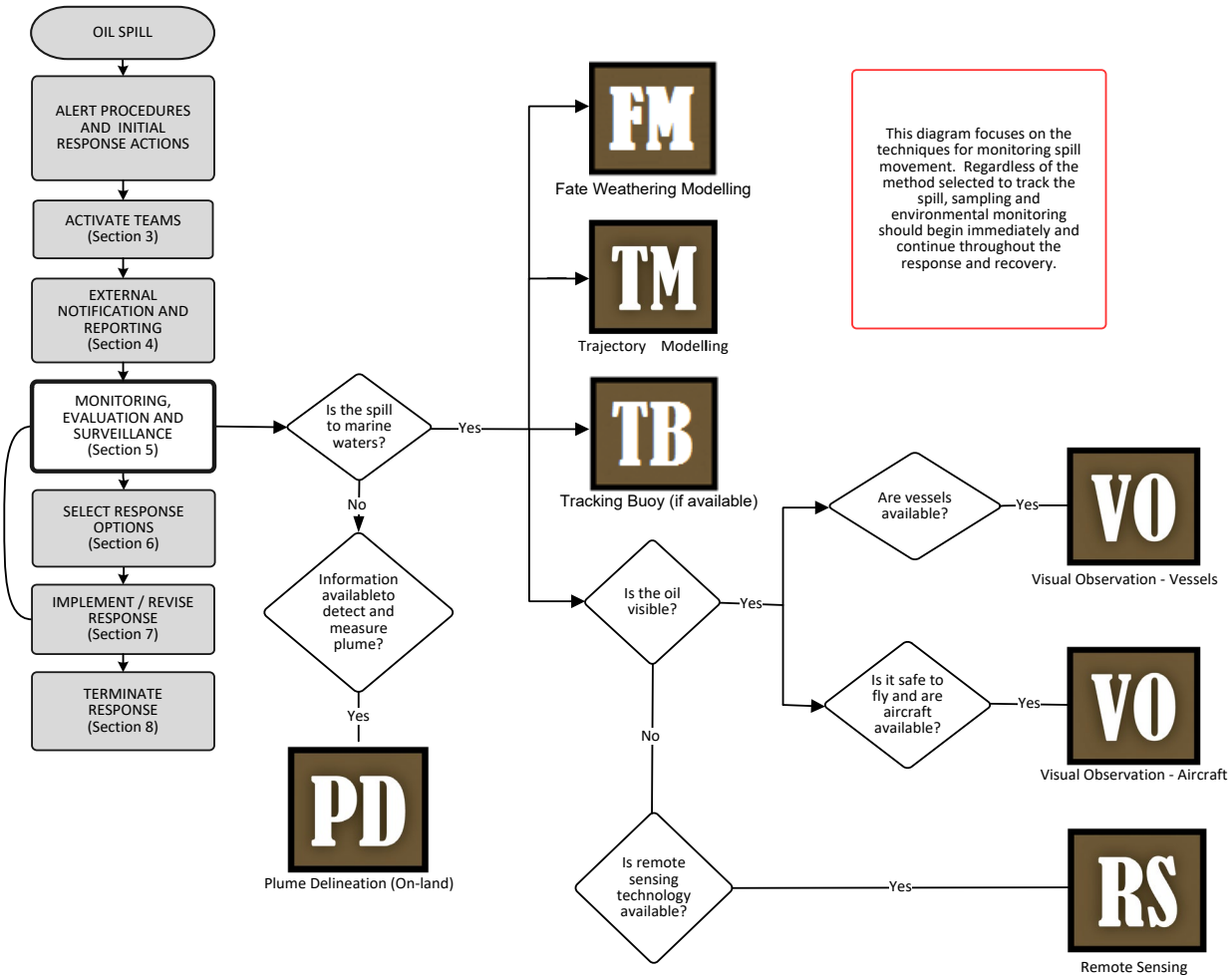

Figure 5-1: Monitoring, Evaluation, and Surveillance Decision Guide

Note: This decision guide helps identify applicable and feasible MES tactics. If multiple tactics are applicable and feasible, they should be implemented.

Table 5-2: Environmental Performance – MES

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
EPO E3 – Manage and inform emergency event decision-making and resource allocation to protect identified environmental values and sensitivities by providing daily MES data to EMTs	**Monitor, Evaluation, and Surveillance (MES)**	
	E3a) CAPL EMT will conduct trajectory modelling to determine fate and behaviour of a spill within 3 hours of EMT activation.	Records show CAPL EMT conducted trajectory modelling to determine fate and behaviour of a spill within 3 hours of EMT activation.
	E3b) CAPL ORT will deploy tracking buoy (for spills originating at the Wheatstone Platform) within 2 hours of EMT activation. For spills originating from other locations, the CAPL ORT will deploy tracking buoy within 6 hours of EMT activation.	Records show CAPL ORT deployed tracking buoy within 2 hours of EMT activation for spills originating at the Wheatstone Platform and within 6 hours of EMT activation for spills originating from other locations.
	E3c) CAPL EMT will conduct aerial surveillance with trained personnel to track	Records show CAPL EMT conducted aerial surveillance with trained personnel to track

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
	and quantify surface and shoreline oil within 8 hours of EMT activation.	and quantify surface and shoreline oil within 8 hours of EMT activation.
	E3d) If shoreline contact is predicted, CAPL will undertake shoreline assessment with at least one trained oil spill responders within 12 hours of receipt of the modelling predicting shoreline contact	Records show CAPL ORT undertook shoreline assessment with at least one trained oil spill responders within 12 hours of receipt of the modelling predicting shoreline contact
	E3e) CAPL EMT will use the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B Response Tactics Guide (Ref. 28) to identify and quantify surface and shoreline oil during training, exercises, and MES operations.	Records show CAPL EMT used the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B Response Tactics Guide (Ref. 28) to identify and quantify surface and shoreline oil during training, exercises, and MES operations.
	E3f) CAPL will conduct aerial surveillance daily to direct offshore, nearshore, and onshore response operations to surface and shoreline oil in accordance with authorised IAP.	Records show CAPL conducted aerial surveillance daily to direct offshore, nearshore, and onshore response operations to surface and shoreline oil in accordance with authorised IAP.

6 Response Option Strategy Selection

Not all response options and tactics are appropriate for every oil spill. Different oil types, spill locations, and volumes require different response options and tactics (or a combination of these) to be effective. The response strategies chosen will be subject to their ability to be executed safely and effectively. Any timeframes given for implementing response strategies are always subject to suitable conditions being available to safely implement the strategy.

This OPEP incorporates all response options and tactics that may be appropriate for the credible spill scenarios presented in the individual EPs. The response option selection process described in this Section (and outlined in Figure 6-1) considers the specific spill parameters when deciding which spill response options and tactics to implement. The EMT takes the lead role in selecting response options and tactics.

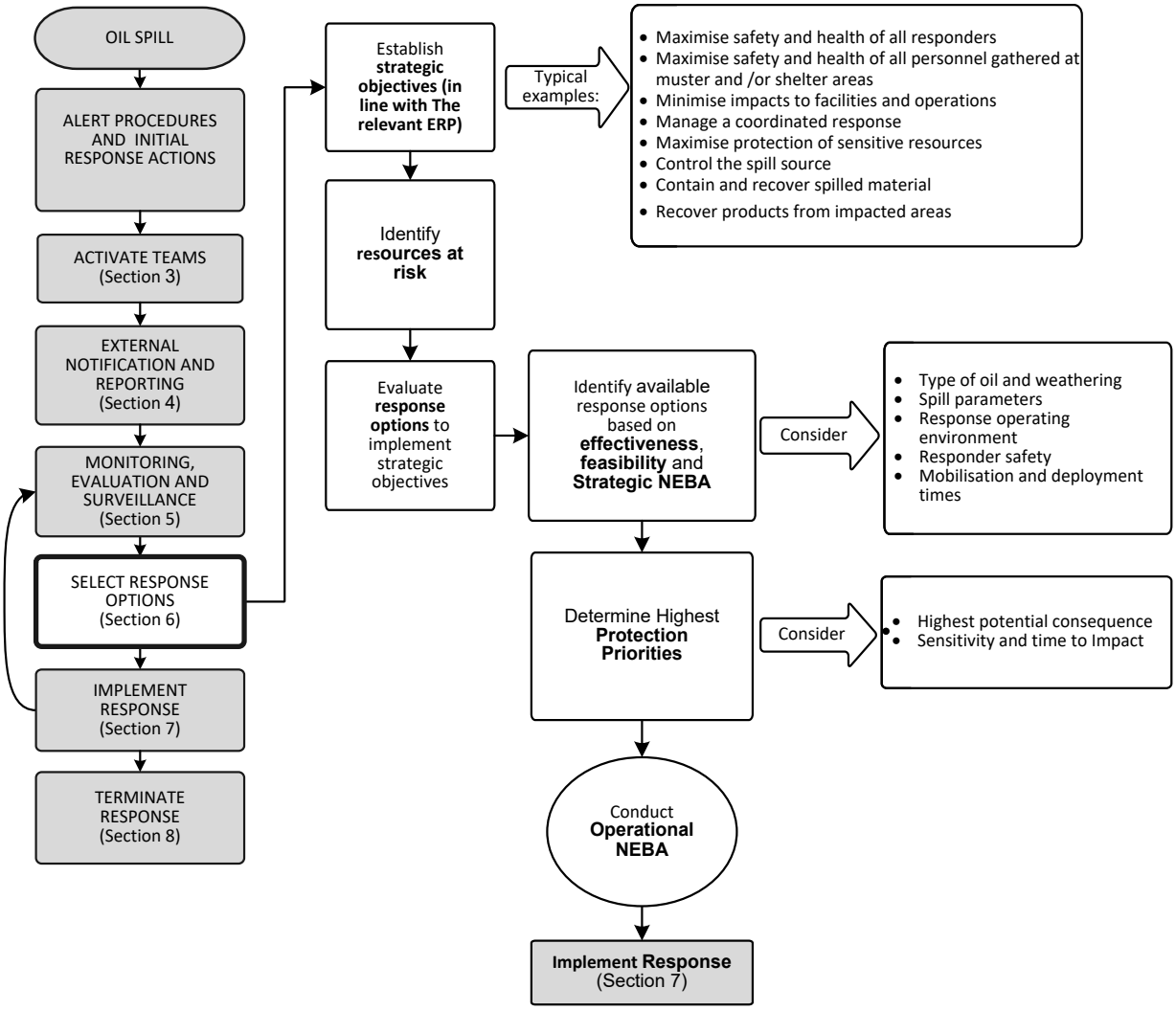

Figure 6-1: Response Option Selection Process

6.1 Response Objectives

For spills where CAPL is the Control Agency, the response objectives are to develop and implement appropriate and effective response strategies that are commensurate to the scale, nature, and risk of the spill. Incident objectives will be set in an objectives meeting, to be held within the first operational period. Guidance on how to draft and test these objectives is detailed in ABU ERP (Ref. 14).

6.2 Implementation Timing

The time to implement each response option detailed in Section 6.5 varies depending on the initial and ongoing response requirements.

Where minimum implementation times are outlined in this OPEP (including within performance standards), they are based on these assumptions:

- For the purposes of this OPEP, implementation is defined as when mobilisation (of people, equipment, or third-party contractors) has commenced for the core activity described.
- If an emergency occurs where human safety is at risk, minimum implementation times may vary.
- For safety and efficiency reasons, oil spill response operations will not be conducted at night. Therefore, implementation times are considered paused during night-time hours (e.g. if an incident is reported at 1700 hours and the sun sets at 1800, only one hour of ‘implementation time’ is considered to have elapsed until sunrise the following day).

Factors outside of CAPLs control (e.g. weather) may affect activation, mobilisation, and implementation times.

6.3 Identification of Resources at Risk

Effective planning and implementation of the strategic objectives requires that sensitive environmental receptors are identified and then prioritised for protection. CAPL’s Oil Spill Protection Prioritisation Process (Ref. 36) describes the manner in which ecological and socioeconomic receptors are assessed and assigned a sensitivity ranking which generally aligns with the process utilised by the WA DoT.

The document describes the background and method for identifying ecological and social protection priorities in relation to potential oil spill impacts from CAPL’s north west shelf operations. Prioritising the importance of receptors helps to determine response needs for an oil spill. Understanding the presence of these receptors, how they are affected by hydrocarbons, why they are important, and how to effectively protect them is a crucial step in oil spill preparedness. The activity specific EP’s consider the protection priorities that fall within the activity specific spill scenario EMBA to guide the strategic direction of the response through informing decisions made around tactical planning and response option selection.

The identification and prioritisation of resources at risk also assist’s with the development of other oil spill planning tools, such as Strategic and Operational NEBAs and tactical response guides.

6.4 Net Environmental Benefit Analysis (NEBA)

NEBA is way to compare the net environmental benefits associated with multiple management alternatives. With specific reference to oil spills, NEBA is the process of considering advantages and disadvantages of different spill response options (including no response) to arrive at a spill response decision that results in the lowest overall environmental and social impacts. NEBA is undertaken throughout an emergency response and involves four main steps (Figure 6-2). The process identifies sensitive environmental receptors and prioritises those receptors for protection so that the strategic objectives of the response can be established.

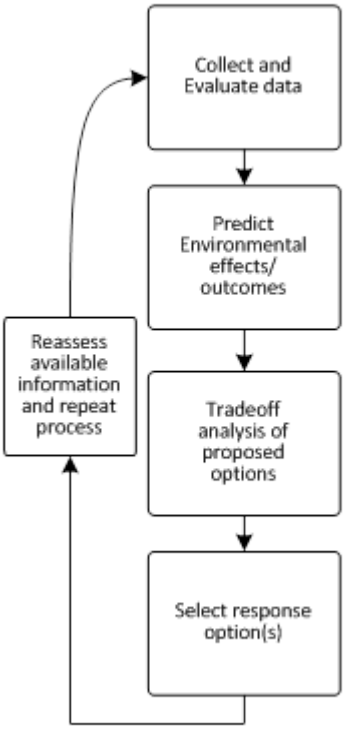

Figure 6-2: Main Steps in NEBA Process

6.4.1 Strategic NEBA

Selecting the response strategies to use often involves making trade-offs (e.g. health and safety, feasibility, flexibility, effectiveness), based on which environmental receptors should receive priority protection. A strategic NEBA is undertaken in the planning phase (pre-spill)—its objectives are to select appropriate response control measures to support the development of the OPEP and to identify the response options available in the ‘response toolbox’.

This OPEP services multiple EPs with differing spill scenarios, EMBAs and worst-case impacts (including maximum shoreline loadings, length of shoreline contacted, and surface exposure). As such, it is not feasible to develop multiple individual strategic NEBAs to cover all scenarios assessed in the EPs. Rather, using a holistic EMBA described in the ABU Protection Prioritisation document (Ref. 36), multiple strategic NEBAs (Appendix E, Ref. 66) were completed using generalised scenarios and oil types applicable to CAPL activities and operations. Hydrocarbons represented in the worst credible spill scenarios within activity

specific EPs were grouped into oil types as defined by the International Tanker Owners Pollution Federation Ltd (ITOPF) classification system:

- Group 1 – Including Iago, Wheatstone, and Jansz condensate; Wheatstone trunkline fluids; and Wheatstone flowline fluids
- Group 2 – Including MDO, Gorgon condensate, Barrow Island crude and Gorgon/Jansz mixed trunkline fluids
- Group 3/4 – Including HFO and IFO (depending on blend).

The strategic NEBAs were developed considering a spill of each oil type within the combined EMBA and all possible response strategies identified as applicable, as per the EPs. After considering the benefits and drawbacks of each response option on the ecological, social, and economic receptors in the combined EMBA, the response options that were determined to minimise the impacts to the environment and people were pre-selected. A summary of the outputs of the Strategic NEBAs, which represents CAPLs identification of preliminary response options, are outlined in Table 6-1.

The strategic NEBAs and associated preliminary identification of response options (Section 6.5) will guide the initial response by the EMT and ORT once they are activated and mobilised. Once the IAP cycle commences, an operational NEBA will be conducted for each operational period using information obtained from MES to inform response option decision-making, with response option selection and implementation updated accordingly.

6.4.2 Operational NEBA

Operational NEBA will be conducted throughout the response. Operational NEBA considers the overall incident objectives—determined at the time of a spill—and the feasibility and effectiveness of the response options in the operating environment. The Planning Section in the EMT will lead the NEBA process and document the outcomes. Key steps for undertaking an operational NEBA are summarised in Figure 6-3.

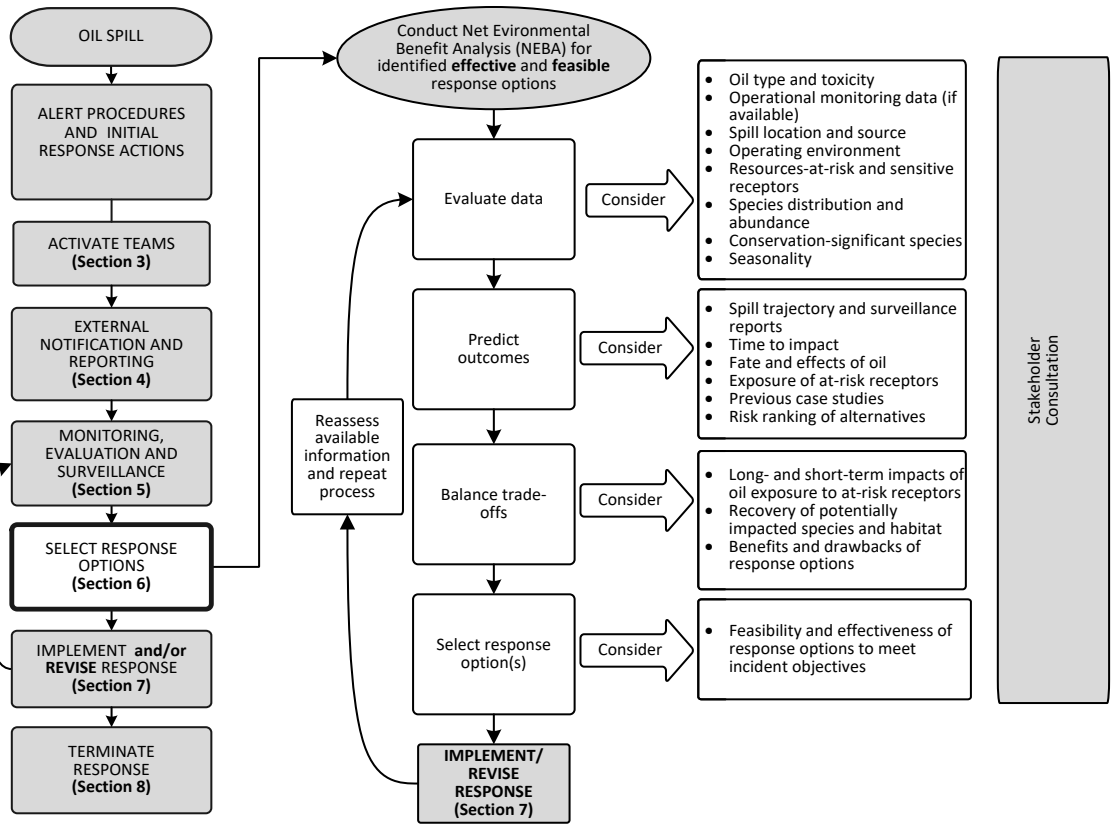

Figure 6-3: Operational NEBA Process

6.5 Preliminary Response Option Identification

A pre-spill strategic NEBA (Appendix E, Ref. 66) was completed to identify the potential net environmental benefit to key sensitive receptors associated with implementing potential spill response options. Table 6-1 summarises the outcomes of the strategic NEBA process and outlines response options that may result in a net environmental benefit based on the generalised hydrocarbon spill scenarios. Given the broad scale of the strategic NEBA, it is particularly important that during a response, the EUL in the EMT ensures a spill response operational NEBA is conducted using the most up-to-date information available.

Primary response options are the principal methods that were assessed to have a net environmental benefit of managing the spill. Additional secondary (contingency) response options are those that may be used to supplement the primary response option or that may be appropriate under specific circumstances

In an emergency event, consider the results from preliminary screening within the context of specific spill parameters when deciding which spill response options and tactics to implement.

Table 6-1: Preliminary Screening of Event Response Options

Note: Factors that can vary or change the outcomes of the results of the preliminary screening include hydrocarbon characteristics, environmental conditions, safety considerations, proximity to shore, and the outcomes of an operational NEBA.

Strategy	Group 1 Hydrocarbons	Group 2 Hydrocarbons	Group 3/4 Hydrocarbons
Source Control	**Primary Response Option** – Source Control is the primary response option for pipeline and drilling-related emergency spill scenarios. Source control activities will occur in a staged approach, commencing with shut-in or SFRT (debris clearance), capping stack, and relief well drilling.	**Primary Response Option** – Source Control is a primary response for pipelines and vessel-based spills. Options include engineering controls aboard the vessel and/or assistance from alternative support vessels.	
Monitor, Evaluate, and Surveillance	**Primary Response Option** – MES is applicable and helpful in all spill events. This strategy has several tactics (e.g. tracking buoys, aerial surveillance) and is scalable according to the nature and scale of a spill. NEBA will always support implementing MES given the clear benefits in maintaining situational awareness throughout the duration of a spill event and because there are few or no environmental impacts associated with its implementation. This strategy intentionally duplicates some tools outlined in the OSMP (Ref. 8).		
Assisted and Natural Recovery	**Primary Response Option** – Natural Recovery and Assisted Natural Recovery is an effective response to reduce spill volume through natural weathering (e.g. evaporation) and fate processes. Assisted natural recovery is highly effective for Group 1 oils, and mechanical assistance (e.g. propeller wash) can help increase the natural recovery rates of Group 2 oils.		**Not Recommended**[1] – Due to the persistent nature of HFO/IFO, natural recovery is not an appropriate response.
Subsea Dispersant Injection (SSDI)	**Primary Response Option** – If a source control option is used for a LOWC event, SSDI may be used to remove volatiles and disperse the hydrocarbons within the water column before they reach the surface. Dispersibility tests completed under laboratory conditions indicate that dispersants may be effective on fresh Gorgon, Jansz, and Wheatstone products over a 1- to 2-day window; however, dispersant application should be carried out in parallel with OSMP effectiveness monitoring.		**Not applicable to surface spills**
Surface Dispersant Application[2]	**Secondary Response Option** – Generally, CAPL's Group 1 hydrocarbons are very light and will spread into a thin layer when on the sea surface. In the event of a continuous release of a Group 1 hydrocarbon surface application is possible and can be an effective technique to support increased entrainment of persistent components. This is supported by dispersibility tests on fresh CAPL products over a 1- to 2-day window.	Discharges of Group 2 oils may either be continuous (e.g. Jansz LOWC) or instantaneous (e.g. MDO / BWI Crude spill). The application of surface dispersant for each will vary: **Continuous – Secondary Response Option** – Refer to Group 1 justification	**Not Recommended** – In most cases the use of dispersant on a Group 3 / 4 hydrocarbon spill will be neither effective nor feasible due to its persistent nature and the properties of the oil as it weathers (increased viscosity and pour point). After 24-48 hours on the surface, Group 3 / 4 hydrocarbons become weathered, inhibiting the effectiveness of the dispersant to reduce the surface tension in the oil/water interface and thus disperse the oil. Consequently, the window of opportunity to use dispersant is narrow and in most scenarios it is not feasible to mount an

Strategy	Group 1 Hydrocarbons	Group 2 Hydrocarbons	Group 3/4 Hydrocarbons
	However, for spill events that are limited in duration (e.g. pipeline rupture) it is unlikely that a surface dispersant application technique can be implemented prior to hydrocarbons naturally dispersing to thin sheens (and small surface concentrations) and prior to the hydrocarbon weathering to a point where efficacy is significantly reduced. If a NEBA confirms chemical dispersants have the potential to provide an effective response, they may be used where the response option meets technical requirements (e.g. CAPL-preferred dispersants, >20 m water depth, approvals in place – see Section 7.3 for more information). Dispersibility tests completed under laboratory conditions indicate that dispersants may be effective on fresh Gorgon, Jansz, and Wheatstone products over a 1- to 2-day window; however, dispersant application should be carried out in parallel with OSMP effectiveness monitoring.	**Instantaneous – Not Recommended** – Instantaneous Group 2 oils (e.g. diesel) have high natural spreading, dispersion, and evaporation rates in the marine environment. It is likely that the oil on the surface will be too thin, resulting in the dispersant "punching" through the thin layer of oil. Application in these conditions would introduce more chemicals into the marine environment, for little to no benefit.	effective response using surface dispersant application before the oil becomes too weathered for the dispersant to be effective. **Continuous – Secondary Response Option** – Note that there may be scenarios where Group 3 / 4 hydrocarbons are lost to the marine environment over a prolonged period (e.g. slow leak from ruptured tank), allowing for surface dispersant application on the fresh oil. In these scenarios, surface dispersant application may be applicable when other more effective response options (e.g. Containment and Recovery) are not possible and some dispersants approved for CAPL use will be effective on different Group 3 / 4 hydrocarbons if applied to the fresh oil. Due to the persistent and viscous nature of this product, it is expected that repeated application and / or increased dispersant dosage ratios will be required to achieve the recommended treatment rate of dispersant. Consideration should be given to any impacts this may cause on sub-surface receptors and the location of spraying. CAPL recommends **not applying dispersant within the 20 m bathymetry contour** to avoid sensitive receptors, unless exceptional circumstances exist and NEBA confirms a net environmental benefit, and if the response option meets OSRM (Ref. 15) requirements. Monitoring and evaluation of surface dispersant application effectiveness and ecological impacts should continue before and throughout the response operation.

Strategy	Group 1 Hydrocarbons	Group 2 Hydrocarbons	Group 3/4 Hydrocarbons
Containment and Recovery	**Secondary Response Option** – Group 1 and 2 hydrocarbons are volatile and rapidly spreading products. Containment and recovery of these products is likely to be inefficient and resource intensive. When used in conjunction with other response strategies, containment and recovery can provide a beneficial supporting strategy that targets patches of weathered hydrocarbons to reduce the hydrocarbon volumes available to impact the shoreline. These activities will generally target swathes / patches of weathered surface hydrocarbons not targeted by other offshore response techniques.		**Primary Response Option** – Given the high persistence and low natural dispersion of HFO/IFO, containment and recovery is a primary response option for all Group 4 hydrocarbon spills. Mobilisation of containment and recovery resources (internal and external) should occur as soon as possible after the incident occurs.
Shoreline Protection and Deflection	**Primary Response Option** – Shoreline Protection and Deflection is a primary response option for all nearshore spills. In this response option, booming systems physically block or deflect the oil to reduce the impact to shorelines and sensitive environments. Decisions for protection priorities will initially be established by the EMTs (Asset and Perth) and consider aspects such as resource importance, likelihood of impact, time to impact, availability of resources, and accessibility. Shoreline protection and deflection activities would involve mobilising personnel and equipment to remote coastal environments, which may result in physical disturbance to intertidal and shoreline habitats. An Operational NEBA should be completed prior to the response been implemented to demonstrate there would be an overall benefit to receptors.		
Shoreline Clean-up	**Primary Response Option** – Shoreline Clean-up occurs after impact; however, preparations for shoreline clean-up should be made as soon as predictions indicate a possible shoreline impact. DoT IC (as Control Agency) approval is required before commencing shoreline clean-up in State Waters. Pre-oiled shoreline assessments should also be carried out as part of this tactic to evaluate shoreline conditions before impact, establish shoreline segments, remove natural debris, set clean-up priorities, and identify suitable tactics. Shoreline clean-up activities would involve mobilising personnel and equipment to remote coastal environments, which may result in physical disturbance to intertidal and shoreline habitats. An Operational NEBA should be completed prior to the response been implemented to demonstrate there would be an overall benefit to receptors.		

1. This information shouldn't contravene an operational NEBA that demonstrates there is a net environmental benefit to leaving oil in situ rather than recovering – eg HFO in mangroves

2. During a response to either a shipping or offshore petroleum activity MOP incident in State waters, regardless of source, the use of dispersants requires the written consent of the State.

Further detail on the implementation tactics of these response options can be found in Appendix B of this OPEP, the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28), and the OSRM (Ref. 15).

7 Implement Response

This Section describes the implementation of response option(s) selected using the process described in Section 6. All response options that may be implemented in the event of a spill associated with CAPL operations and activities are included in this Section (Figure 7-1). Only those deemed appropriate for the spill incident (refer to the response option selection process outlined in Section 6) will be implemented.

MES will occur throughout the response activity to inform the effectiveness of the response options selected.

Each response option section is structured to include:

- objective, implementation and termination criteria
- an overview of the response option
- a summary of tactics for implementation

An Implementation Guide for each response option, which comprises task checklists for relevant EMT positions and response team to consider (if relevant to the spill incident and parameters), is provided in Appendix B. The tasks and responsibilities described in these checklists are to guide response teams. Depending on the nature and scale of the spill and the specific spill parameters, the IC may determine that some tasks be varied, should not be undertaken, or that responsibilities be reassigned.

Further and more detail on implementing the response options can be found in the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) and the OSRM (Ref. 15).

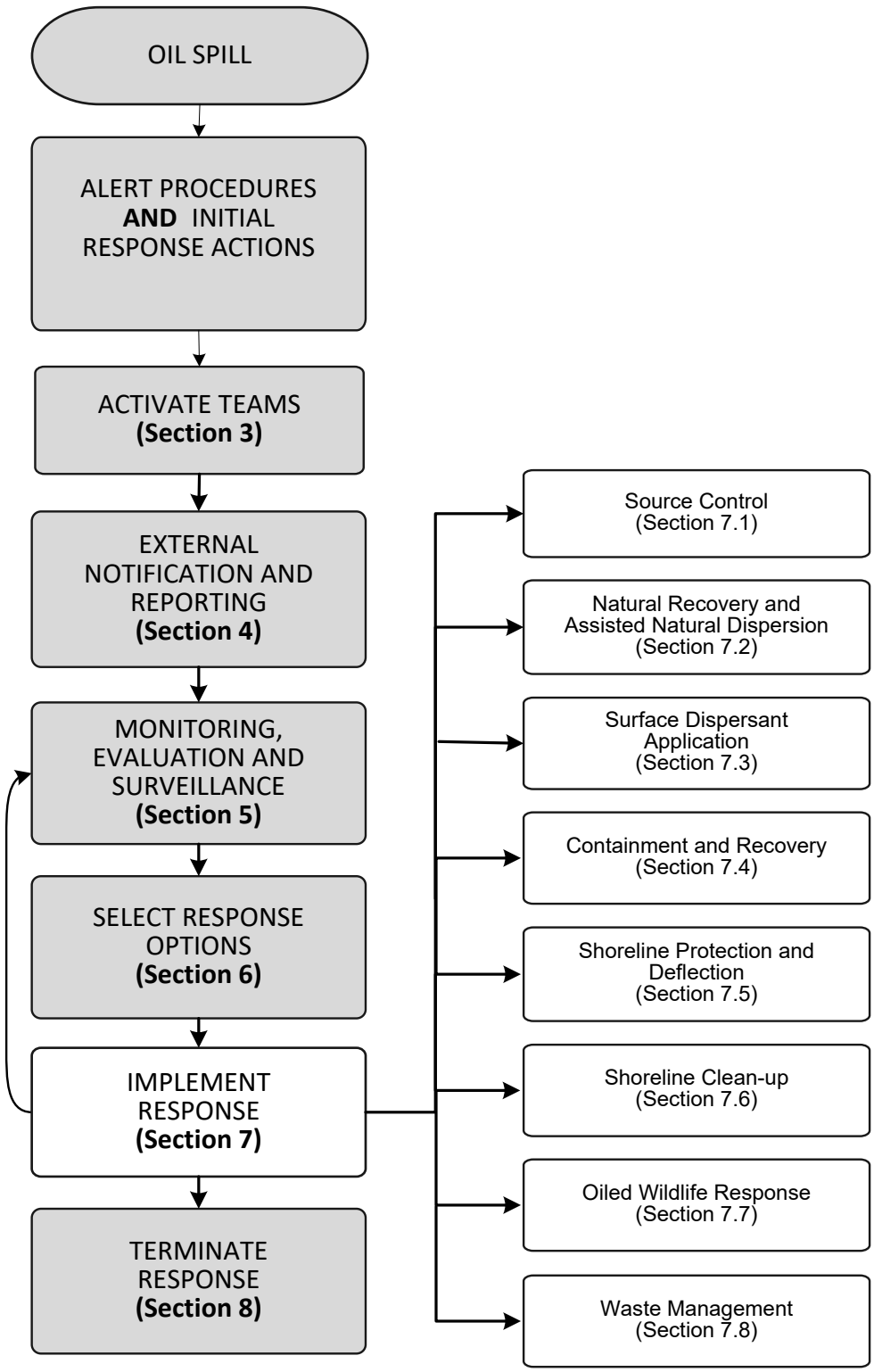

Figure 7-1: Response Option Implementation

7.1 Source Control

Table 7-1: EMT Information for Source Control – Objective, Initiation Criteria, and Termination Criteria

Objective	The objective of source control is to reduce the amount of product released to the environment, thereby minimising the environmental impact. It is the initial action for all emergency events (vessel, well, or pipeline) and implemented where possible, but the intent is primarily for a LOWC incident. In these instances, source control is implemented by installing subsea equipment (capping stack or blowout preventer [BOP]) at the wellhead and/or relief wells.
Initiation criteria	Source control is initiated for any emergency event where the source of the hydrocarbon spill can be controlled, reduced, or stopped (including, but not limited to, Level 2–3 LOWC, pipeline rupture, or vessel spill).
Termination criteria	When flow from the source has been fully controlled (e.g. successful capping stack engagement or relief well intersection and well kill) and/or agreement has been reached with the jurisdictional authority relevant to the spill to terminate the response.

7.1.1 Overview

Source control is the primary response option for drilling-related emergency spill scenarios. It involves stopping the discharge of hydrocarbons from the source of the spill, which may be from a vessel or subsea well.

If the source of the spill is a vessel, then the vessel owner is responsible for undertaking source control, as per its Shipboard Oil Pollution Emergency Plan (SOPEP).

If the source of the spill is a LOWC or well blowout, then source control typically involves subsea well intervention, which includes the methods outlined below. Note: SSDI may be used for a LOWC event. Because subsea dispersant application is a component of a source control response, it is included as a source control response activity and is not described in other sections of this OPEP.

7.1.2 Tactics

Source control is the initial action for all emergency events and is described in the vessel response procedures and/or platform/trunkline/flowline isolation/facility emergency operating procedures and therefore is not fully described in this OPEP as part of the initial response activities. Table 7-2 lists the criteria for implementing source control for LOWC and vessel incidents.

7.1.2.1 LOWC Tactics

The activity-specific SCERPs will be the primary response procedure used to plan and respond to a LOWC event. The body of the main document provides information on the consistent aspects of a source control response, such as addressing arrangements for the provision of Source Control EMT personnel and detail the logistics, mobilisation, and transport of key LOWC equipment (such as SFRT, capping stack, MODU etc). Appendices to the document will provide more activity / well specific information for implementing the source control strategies (e.g. capping stack plans and well specific relief plans).

This document outlines further documents and resources that would be used by the Source Control Branch to plan and mobilise all applicable source control strategies.

The source control strategy involves applying industry-accepted subsea well intervention methods to cap, contain, and kill the well. The methods outlined below are strategies available to CAPL for a LOWC source control response.

Subsea First-response Toolkit (SFRT)

This Toolkit provides the capability to assess the well site and prepare the well and surrounding area for installing the capping stack. The SFRTs comprise three sets of equipment, designed to address specific aspects of the source control incident:

- **Debris Clearance:** This contains equipment for site surveys (to obtain a clear understanding of the site, even in low or zero visibility) and an array of debris removal equipment to allow the site to be cleared to make room for the larger equipment required. Debris clearance will be performed from a vessel with work-class remotely operated vehicles (ROVs) and a crane, all of which will be provided by CAPL independently of the SFRT.
- **Blowout Prevention (BOP) Intervention System:** Once sufficient debris has been cleared from the incident site to allow access to the BOP and well, BOP intervention will be performed to attempt to function the BOP and isolate or reduce the loss of containment from the well. This system contains equipment for a first attempt to shut in the BOP, and comprises a subsea accumulator package, charging skids, and a manifold. All equipment is operated by ROV once deployed.
- **Subsea Dispersant Injection:** SSDI aims to disperse hydrocarbons close to the release point and minimise the amount of hydrocarbons reaching the sea surface. This technique helps break up the oil droplets so that they are dispersed, diluted, and biodegraded more rapidly in the water column, reducing the amount of surface hydrocarbons drifting towards sensitive receptors. An additional benefit of this technique is that it can reduce the volume of volatile organic compounds (VOCs) from reaching the surface close to the release site, which is beneficial to the health and safety of personnel involved in any source control operations.

The SFRT includes a system of manifolds, jumpers, and wands that distribute dispersant to the point of leakage at the seabed. This is the most efficient way of ensuring that the minimum volume of oil/condensate sits on the sea surface around the area of operation and is essential to ensure a safe working environment for vessels during the incident. The SFRT does not include the downline from the surface vessel to the seabed—this will be provided by CAPL independently of the SFRT.

The SFRT is owned by AMOSC through a consortium of gas and petroleum gas industry operators, and is maintained by Oceaneering, a third-party contractor. In the event of a well control incident, CAPL will mobilise the AMOSC SFRT from Perth to Dampier for transfer to a suitable vessel for transport and deployment at the incident location. In addition, as a member of OSRL, CAPL can request a Subsea Incident Response Toolkit as an alternative or backup to the SFRT—this toolkit would be mobilised from Norway or Brazil.

SSDI monitoring is a component of the ABU OSMP (Ref. 8) and will be implemented when the associated initiation criteria for Chemical Dispersant Efficacy Assessment (OPS2) are triggered. Monitoring data obtained will help determine the effectiveness of SSDI application and the potential environment

effects, all of which are used to guide termination decision points for SSDI operations.

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 either through a relief well or well re-entry. After sufficient debris has been removed, the well may be capped at the source by using a dedicated capping stack or a standard subsea BOP stack run on riser to connect to the wellhead (after removing the existing BOP stack).

Capping stack compatibility varies from well to well and can also depend on the extent of blow out, type and rate of discharge, and damage to an individual well, which would only be known at the time of the spill and assessed via the SFRT and accompanying ROVs. Depending on damage and capping stack compatibility, CAPL may use one of four subsea capping stacks it has access to under the OSRL Master Supplementary Agreement.

If conditions prevent direct vertical access to the wellhead or BOP, an Offset Installation Equipment (OIE) system may be used to support well intervention operations. This system may help deploy the capping stack offset from an incident site and is compatible with OSRL's 15K capping stacks located in Brazil and Norway. The offset distance will be determined by the type and rate of discharge from the well, and prevailing weather and current conditions at the well site. The OIE is owned and operated by Saipem and is located in Italy. CAPL has access to this equipment via the agreement with OSRL.

Because of the volatile nature of the gas released from a high-rate gas well of the type typically drilled by CAPL, capturing the gas at the wellhead and diverting it to a processing facility on a surface vessel (i.e. containment) is not considered risk-acceptable. The integrity of such a temporary processing train for gas could not be assured with an acceptable degree of risk.

Relief Well Drilling

In parallel with plans to install the capping stack, a relief well may be drilled from an offset location to intersect the incident well and provide a conduit through which heavy fluid can be pumped to kill the incident well. The weighted fluid counterbalances the upward pressure from the reservoir fluid, thereby dynamically controlling the source. Once controlled, the incident well is filled with a suitably weighted fluid to re-establish a hydrostatic barrier in the wellbore. A relief well requires mobilising a suitable MODU to the location adjacent to the incident well.

7.1.2.2 Vessel Source Control Tactics

Vessel source control options include:

- engineering controls aboard the vessel (e.g. stripping pumps, shutoff valves, and diversion to other tanks)
- alternative support vessels contracted for patch installation / salvage
- alternative support vessels to store transfer product from the leaking vessel.

The tactics selected will be specific to individual vessels and more information will be detailed in:

- each vessel's SOPEP
- NATPLAN (Ref. 1).

Table 7-2: Source Control Application Criteria

Criteria	Relief Well	Subsea Well Intervention / Capping Stack	Vessel
Location and water depth	All	Capping stack up to 3000 m* Subsea dispersant ≤3000 m**	Capping Stack – 250 T AHC crane minimum OIE – 600 T AHC crane minimum SSDI – 50 T AHC crane + 2 ROVs
Oil type	Group 1 – Including Iago, Wheatstone, and Jansz condensate; Wheatstone trunkline fluids; and Wheatstone flowline fluids Group 2 – Gorgon condensate, Barrow Island crude, and Gorgon/Jansz mixed trunkline fluids		Group 2 – MDO Group 3/4 – IFO/HFO
Environmental conditions	All	Site risk assessment	Site risk assessment
Window of opportunity	Applicable at any time	Applicable at any time	Applicable at any time
Safety	Atmospheric monitoring will be conducted on the surface to establish exclusion zones and safe operating areas.		
** Depth based upon plume modelling of VOCs, atmospheric monitoring around the release location, and ability to deploy within safe zone* *** Depth based upon ROV deployment capability and length of umbilicals*			

7.1.3 Implementation

Allowing for the potential size and complexity of a LOWC source control response, specific implementation guidance for all aspects of a response are documented in the SCERP and its supporting documents. These plans describe CAPL's needs (and capability) to implement a LOWC source control response.

The resource capability required to implement this strategy is included in Appendix C (Table C1), which outlines the spill response capabilities and arrangements that CAPL has in place across the business.

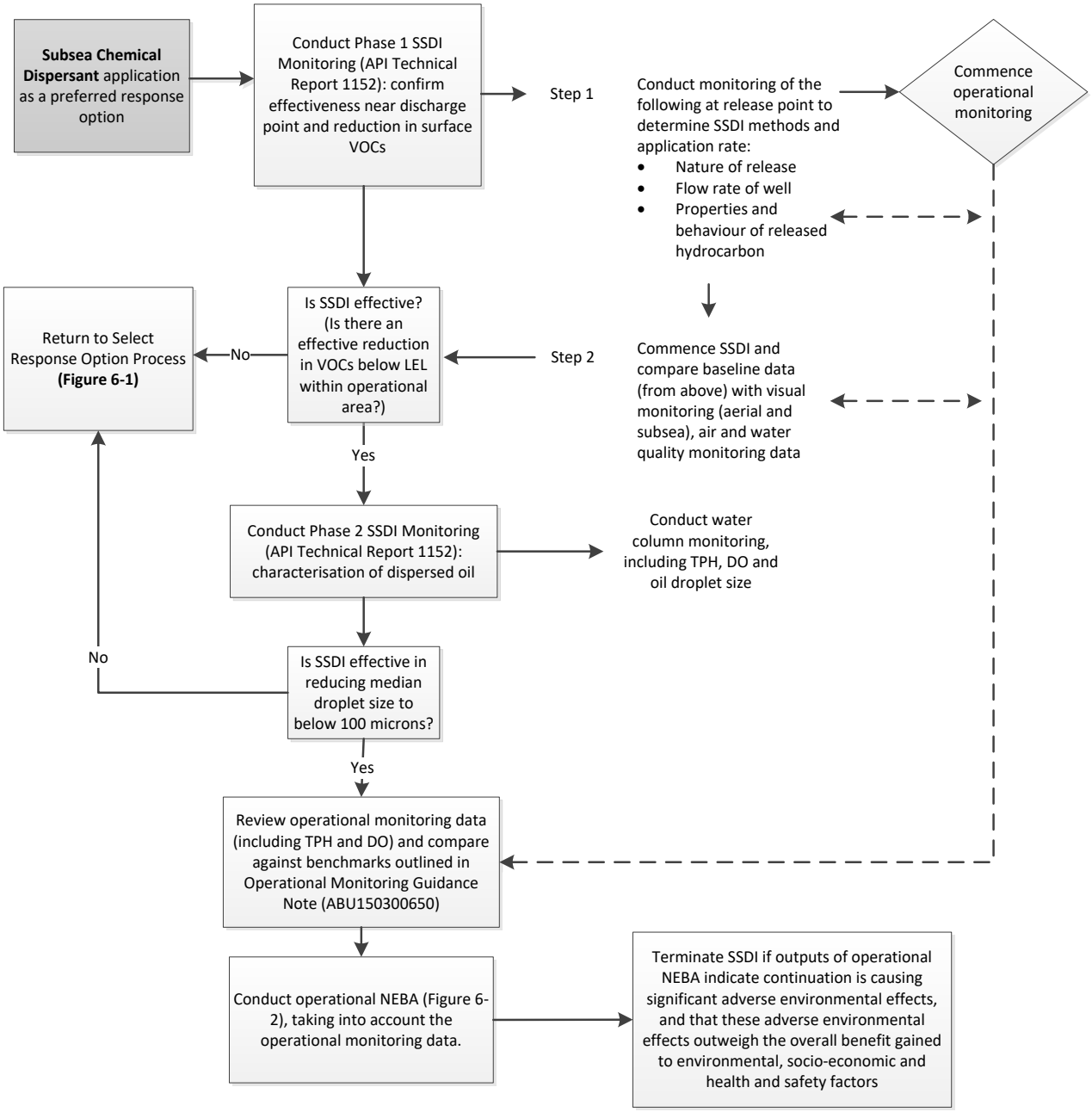

Figure 7-2: Subsea Dispersant Operations Decision Guide

Table 7-3: Environmental Performance – Source Control

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
EPO E4 – Reduce the volume of hydrocarbons released during a LOWC and impacts on values and sensitivities by implementing source control arrangements	**Source Control**	
	E4a) Upon confirmation of a LOWC, the CAPL EMT will, within two hours of mobilisation and in accordance with the SCERP, complete contract activation for: • SFRT including SSDI and debris clearance (via AMOSC contract) • OSRL capping stack and additional dispersant stocks	Records confirm, upon confirmation of a LOWC, the CAPL EMT, within two hours of mobilisation and in accordance with the SCERP, completed contract activation for: • SFRT including SSDI and debris clearance (via AMOSC contract) • OSRL capping stack and additional dispersant stocks
	E4b) Upon confirmation of a LOWC, the CAPL EMT will, within 12 hours of mobilisation and in accordance with the SCERP commence mobilisation of: • SFRT including SSDI and debris clearance • OSRL capping stack and additional dispersant stocks	Records confirm, upon confirmation of a LOWC, the CAPL EMT, within 12 hours of mobilisation and in accordance with the SCERP commenced mobilisation of: • SFRT including SSDI and debris clearance • OSRL capping stack and additional dispersant stocks
	E4c) Upon confirmation of a LOWC, components of the OSMP (Ref. 8) (OPS1 [oil characterisation] and offshore monitoring components of OPS3 [oil in water]) will be implemented within 48 hours of the individual component's initiation trigger being met. Operational monitoring data will inform the operational NEBA, as it becomes available	Records confirm that components of the OSMP (Ref. 8) (OPS1 [oil characterisation] and offshore monitoring components of OPS3 [oil in water]) were implemented within 48 hours of the individual component's initiation trigger being met, and operational monitoring data informed the operational NEBA, as it became available
	E4d) A relief well will be drilled and the well killed within the timeframes specified in the applicable Environmental Plan	Records confirm that a relief well was drilled and the well killed within the timeframes specified in the applicable Environmental Plan
	E4e) Components of the OSMP (Ref. 8) (OPS1 [oil characterisation] and offshore monitoring components of OPS3 [oil in water]) will be implemented within 48 hours of the individual component's initiation trigger being met. Operational monitoring data will inform the operational NEBA, as it becomes available	Records confirm that components of the OSMP (Ref. 8) (OPS1 [oil characterisation] and offshore monitoring components of OPS3 [oil in water]) were implemented within 48 hours of the individual component's initiation trigger being met, and operational monitoring data informed the operational NEBA, as it became available

7.2 Natural Recovery and Assisted Natural Dispersion

Table 7-4: EMT Information for NR and AND – Objective, Initiation Criteria, and Termination Criteria

Objective	To allow hydrocarbons to naturally dissipate and break down through natural physical and chemical processes. At times, mechanical mixing energy (e.g. vessel propellers) may be required to increase dissipation.
Initiation criteria	There are no initiation criteria for natural recovery as natural processes will begin acting on hydrocarbons immediately. The NEBA process will determine if natural recovery is used as the primary response option or as an option that complements other response options. The NEBA will guide the implementation of assisted natural dispersion under certain metocean conditions.
Termination criteria	For assisted natural dispersion, a decision to terminate the response will be made when: • it is determined that assisted natural dispersion is unlikely to reduce overall impact effectively (NEBA); • agreement is reached with jurisdictional authorities (i.e. AMSA, DoT) and stakeholders to terminate the incident response; • it is deemed unsafe for this response option to continue; or, • the response technique is proving ineffective.

7.2.1 Overview

Natural recovery (NR) refers to leaving the oil in place to be broken down through natural processes. Natural recovery may be a component of a response option that also involves more active clean-up options or as a primary approach if other response options are not feasible, or present unacceptable safety risks, or may cause net environmental harm.

Assisted Natural Dispersion (AND) is a variation of natural recovery, where mixing energy (e.g. using a boat propeller or high-pressure spraying) is added to a marine oil spill to help disperse the oil.

7.2.2 Tactics

Although no direct tactics are needed to implement offshore natural recovery, it may be an appropriate response strategy to complement other intervention-based response strategies, or as a primary response strategy if other strategies are likely to cause a greater impact than leaving the oil to degrade naturally. NR may also be recommended as the only viable response option during inclement weather (e.g. tropical cyclones, high seas, strong winds) when responding with other intervention-based response strategies could place personnel at risk. In such conditions the natural energy of the ocean increases dissipation and dispersion rates.

Under certain spill scenarios, AND may be used to add mixing energy to the slick in very calm sea and wind conditions. Under such scenarios, vessels could use these tactics to increase mixing energy:

- **Vessel propeller wash**: Manoeuvring a vessel through the slick and using the agitation caused by the propeller wash to break up the slick
- **High-pressure spraying**: Using fire hoses or other high-pressure spraying systems to add mixing energy to an on-water slick and enhance break-up.

NR and AND is not recommended for Group 3 and 4 oils, which are generally more recoverable (boom and skimmer). Group 3 and 4 oils are more persistent

and less biodegradable, have little or no evaporation or dissolution (especially Group 4 oils), and weather slowly (especially Group 4 oils).

The process for selecting which tactic to apply is outlined in Table 7-5. Figure 7-3 lists roles and responsibilities and provides prompts and potential tasks to undertake (if relevant) for implementing AND. The resource capability required to implement this strategy is included in Appendix C (Table C1), which outlines the spill response capabilities and arrangements that CAPL has in place across the business.

Table 7-5: NR and AND Application Criteria

Criteria	Recommended		Not Recommended	
	Natural Recovery	AND	Natural Recovery	AND
Oil type	For light, non-persistent hydrocarbons, such as ITOPF Group 1–2 hydrocarbons (e.g. MDO, condensate, hydraulic oil)		For persistent hydrocarbons, such as ITOPF Group 3–4 hydrocarbons (crude oil, IFO, HFO)	
Slick thickness	Sheen or slick too thin for dispersants or containment and recovery		Slick thick and continuous enough to treat with dispersants or contain and recover	
Water depth	Depends on NEBA	>10 m	Depends on NEBA	<10 m
Sea state	Depends on NEBA	Calm seas (waves <1 m)	Depends on NEBA	Heavy seas (waves >2.5 m)

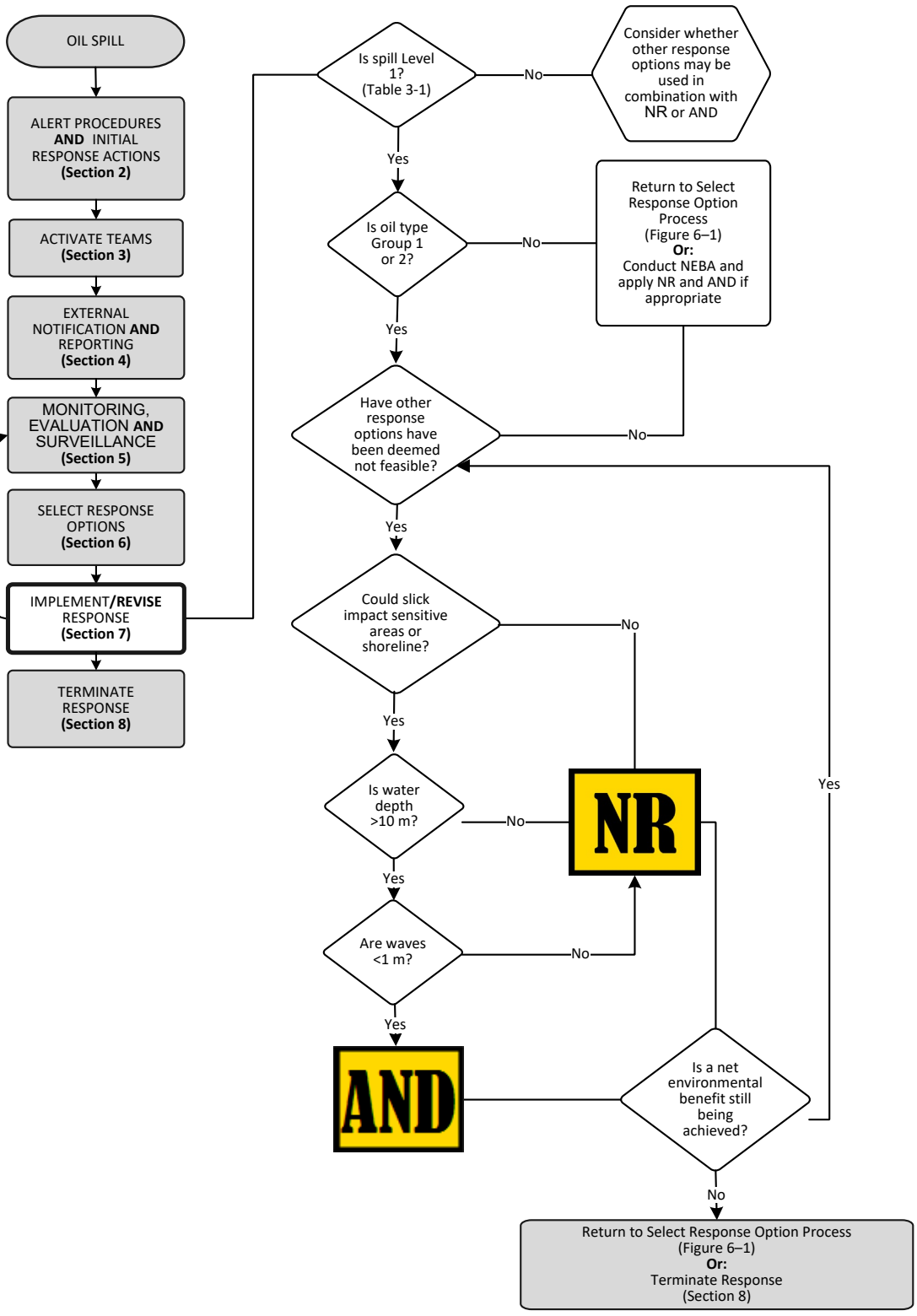

Figure 7-3: NR/AND Operations Decision Guide

7.2.3 Implementation

Table B2 (in Appendix B) guides the ORT, IEMT, and EMT on tasks and responsibilities that should be considered when implementing this response strategy. The IC is ultimately responsible for implementing the response and

therefore, depending on the circumstances of the spill, they may determine that some tasks be varied, should not be undertaken, or should be reassigned.

Note: NR is not included in Table B2 (in Appendix B) as specific NR tasks are not required to be implemented. If NR is considered an appropriate response option, continual MES and NEBA will be undertaken, as per the overarching response implementation process.

Further detail on implementing this response option can be found in the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) and the OSRM (Ref. 15).

7.3 Surface Dispersant Application

Table 7-6: EMT Information for Surface Dispersant Application – Objective, Initiation Criteria, and Termination Criteria

Objective	Use chemical dispersants on surface water slicks to enhance the breakdown of oil into smaller droplets and enhance dispersion into the water column and natural biodegradation
Initiation criteria	Surface dispersant application will be only be used once these criteria are met: • an operational NEBA and field testing demonstrate an environmental beneficial outcome prior to application; and, • all relevant approvals required for surface dispersant application have been given, as per the OSRM (Ref. 15)
Termination criteria	Surface dispersant application will be terminated when: • agreement has been reached with the jurisdictional authority relevant to the spill to terminate the response • NEBA suggests that continuation of dispersant application may cause greater damage than residual oil left on water • visual tests and/or dispersant effectiveness monitoring indicates that dispersant application is no longer effective

7.3.1 Overview

The objective of applying surface chemical dispersants to on-water oil slicks is to help break down oil into smaller droplets and help disperse the oil into the water column. Dispersants lower the interfacial tension of oil and promote the formation of small droplets that become submerged in the water column, where the natural attenuation and biodegradation processes can substantially reduce the volume of oil. Dispersant application has a limited window of opportunity, as the ability for the dispersants to break up the hydrocarbons typically decreases as the product weathers.

Subsurface dispersant application is covered in Source Control (Section 7.1) and is not considered in this Section.

7.3.2 Tactics

The decision to use surface dispersants depends on the nature and scale of the oil spill, including hydrocarbon type and proximity to the resources at risk of exposure. Several tasks must be carried out before making a decision to implement surface dispersant application as a response option—these are summarised below; the OSRM (Ref. 15) provides further information to help EMTs carry out dispersant operations:

- **NEBA**: An appropriate NEBA is completed before dispersant application to consider how the activity (to spray chemical dispersant) will change the patterns of hydrocarbon exposure, and what environmental sensitivities and resources at risk are within the EMBA. The NEBA considers the spill trajectory (sourced from oil spill trajectory modelling and other MES information) in relation to sensitive receptors, water depths, tide, current, and hydrocarbon type.
- **Approval and Permitting**: If surface dispersant use is planned within State Waters, written DoT authorisation (as the HMA) is required before they can be applied. In Commonwealth Waters, NOPSEMA provides prior approval of dispersant use upon acceptance of the EP/OPEP that identifies dispersants as an appropriate response option. AMSA may also need to be consulted to

advise on spills that occur in Commonwealth Waters if the vessel is not conducting a petroleum activity.

- **Dispersant Selection**: The efficacy of dispersants on different oil products varies significantly. AMSA administers an Oil Spill Control Agent (OSCA) Register (Ref. 37), which details the dispersant's efficacy, toxicology, and biodegradation potential. CAPL will prioritise the use of dispersants on this register that have the greatest efficacy on hydrocarbon products relevant to CAPL's projects and operations. These prioritised dispersants are identified in the OSRM (Ref. 15) and are available through support agency stockpiles. Other dispersants may be considered if approved and listed on the OSCA Register, depending on availability and time required to mobilise the dispersant to the incident site and the outcome of the NEBA.

Tactics involved in applying surface dispersants include:

- **Pre-application field testing**: Surface dispersant application should be preceded by suitable efficacy testing to ensure the dynamics of the natural environment and the hydrocarbon properties are amenable to the specific dispersant type being used. Basic (Tier 1) field testing (using the Special Monitoring of Applied Response Technologies (SMART) monitoring protocol for dispersant application to monitor effectiveness) must be carried out before application. Dispersant efficacy testing is an operational monitoring component under the OSMP (Ref. 8).
- **Ongoing Efficacy Testing**: Once the dispersant is determined to be effective, application should be accompanied with ongoing efficacy monitoring throughout the response. Dispersant efficacy testing is an Operational Monitoring component under the OSMP (Ref. 8) and will be carried out by the OSMP team.
- **Vessel Application**: Vessel dispersant application can be undertaken by dedicated response vessels or by vessels of opportunity fitted with AFEDO spray sets to apply dispersants.
- **Aerial Application**: As part of CAPL's AMOSC membership, it has access to its FWADC. If this capability is required, AMOSC will activate its contract with AMSA, which shall provide CAPL with aircraft and dispersants. If additional aerial dispersant capability is required, CAPL can activate OSRL, who can supply its Hercules aircraft from Malaysia.

Monitoring and evaluation of surface dispersant application effectiveness and ecological impacts should continue throughout the response operation.

Table 7-7 lists the criteria for applying surface dispersants. Figure 7-4 shows the process for implementing this response option and assessing dispersant effectiveness. The resource capability required to implement this strategy is included in Appendix C (Table C1), which outlines the spill response capabilities and arrangements that CAPL has in place across the business.

Table 7-7: Surface Chemical Dispersant Application Criteria

Criteria	Recommended	Not Recommended
Location and water depth	Outside 20 m bathymetry contour	CAPL recommends not applying surface dispersant within the 20 m bathymetry contour to avoid sensitive receptors, unless exceptional circumstances exist and NEBA confirms a net environmental benefit
Dispersant	Select dispersant from dispersant list, as referenced in the OSRM (Ref. 15) (always conduct field tests to confirm effectiveness before applying dispersant)	
Environmental conditions	• Sea temperature >15 °C • Waves 0.2 to 4 m • Winds 4 to 27 knots • Beaufort Scale 2 to 6 • Safe to operate vessel or aircraft	• Sea temperature <15 °C • Waves <0.2 m or >4 m • Winds <4 knots or >28 knots
Oil Type	• Refer to OSMP (Ref. 8)	
Oil properties	• Lower–middle range viscosity* • Non-emulsified oils** • Pour point lower than seawater temperature • Average oil appearance BAOAC 4 (as minimum)***	• High or very low viscosity* • Emulsified oil (stable emulsions)** • Pour point higher than seawater temperature • Average oil thickness <0.05 mm or >10 mm
Window of opportunity	• Oil would not have significantly weathered by the time surface dispersant application occurs • Refer to spill Fate Weathering Modelling conducted (Section 5)	• Oil would have significantly weathered by the time surface dispersant application occurs • Refer to spill Fate Weathering Modelling conducted (Section 5)
Dosage	Follow manufacturer recommendations for dosage ratio (dispersant to oil) and monitor to assess effectiveness. (Dispersed plume should appear grey or coffee-coloured in the water column. Over-dosing creates a milky white plume; under-dosing leaves a visible slick on the sea surface.)	

** Very low viscosity oils will naturally dissipate and do not require dispersant application. Some very low viscosity oils may contain residual, persistent components that are amenable to dispersant.*

*** Emulsification tendency can be predicted based on oil properties or fate and effect models. A general rule is that oils with asphaltene content >0.5% or combined nickel and vanadium content greater than 11 ppm will tend to form stable water-in-oil emulsions that will make them poor candidates for dispersant application.*

**** Dispersants may be applied to thicker slicks (up to 10 mm) if sufficient wave energy is present (>1.8 m wave height)*

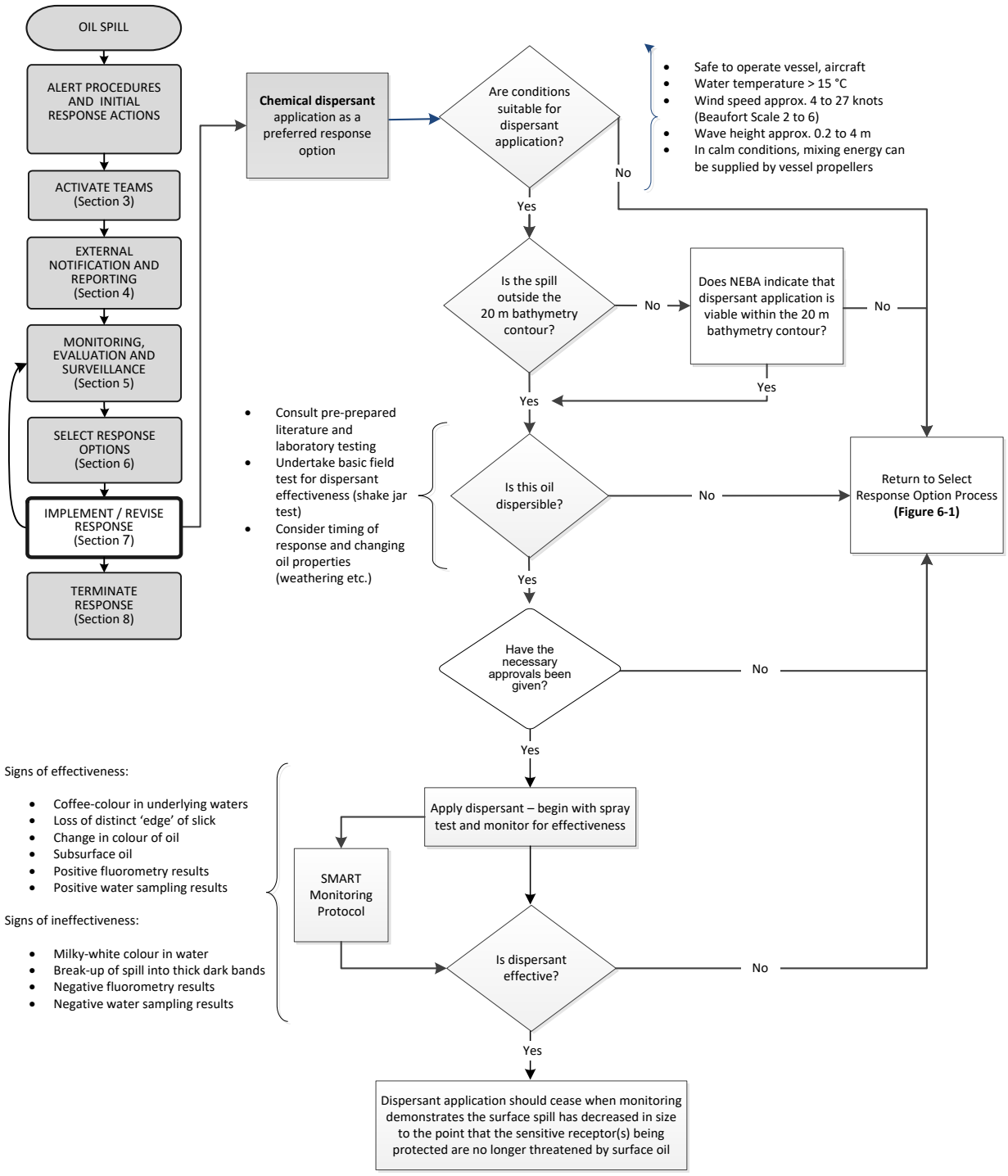

Figure 7-4: Surface Dispersant Operations Decision Guide

7.3.3 Implementation

Table B3 (in Appendix B) guides the ORT, IEMT, and EMT on tasks and responsibilities that should be considered when implementing this response strategy. The IC is ultimately responsible for implementing the response and therefore, depending on the circumstances of the spill, they may determine that some tasks be varied, should not be undertaken, or should be reassigned.

Further detail on implementing this response option can be found in the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) and the OSRM (Ref. 15).

Table 7-8: Environmental Performance – Surface Dispersant Spraying

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
EPO E5 – Reduce the volume of hydrocarbons contacting nearshore and onshore values and sensitivities during an emergency event by enhancing natural dispersion through the use of surface dispersant spraying	**Surface Dispersant Spraying**	
	E5a) If dispersant application is selected, CAPL EMT will identify vessel availability through existing contracts within 12 hours of EMT activation	Records show CAPL EMT identified vessel availability through existing contracts within 12 hours of EMT activation
	E5b) If dispersant application is selected, CAPL EMT will mobilise a minimum of one identified, contracted vessel within 24 hours to Onslow, Dampier, or Barrow Island (subject to Barrow Island quarantine requirements) for equipment and test kit loading	Records show CAPL EMT mobilised a minimum of one identified, contracted vessel within 24 hours to Onslow, Dampier or Barrow Island (subject to Barrow Island quarantine requirements) for equipment and test kit loading
	E5c) If dispersant application is selected, CAPL ORT will undertake aerial surveillance with trained personnel to direct offshore response operations to surface oil in accordance with the authorised IAP	Records show CAPL ORT undertook aerial surveillance with trained personnel to direct offshore response operations to surface oil in accordance with the authorised IAP
	E5d) If dispersant application is selected, CAPL will resource dispersant operations with equipment packages in accordance with the authorised IAP	Records show CAPL resourced dispersant operations with equipment packages in accordance with the authorised IAP
	E5e) Surface dispersant application will continue for the duration of the event in accordance with the IAP, until operational NEBA determines there is no net environmental benefit, and termination criteria has been met, consistent with Section 8 of this OPEP	Records show that surface dispersant application continued for the duration of the event in accordance with the IAP, until operational NEBA determined there was no net environmental benefit, and termination criteria was met, consistent with Section 8 of this OPEP

7.4 Containment and Recovery

Table 7-9: EMT Information for Containment and Recovery – Objective, Initiation Criteria, and Termination Criteria

Objective	Containment and recovery involves concentrating floating surface oil so that it can be mechanically recovered, with the aim of removing oil from the surface before it can impact sensitive receptors
Initiation criteria	Containment and recovery will be initiated for Level 2 or Level 3 spills when: • a NEBA demonstrates that the response strategy is likely to result in a net environmental benefit, and • it is safe to do so
Termination criteria	Containment and recovery operations will be terminated when: • the response technique is proving ineffective; • sea state or weather conditions do not allow for effective or safe operation; or, • agreement has been reached with the jurisdictional authority relevant to the spill to terminate the response

7.4.1 Overview

Containment and recovery involves concentrating and containing floating surface oil with booms and removing it with specialised skimmers. Removing oil from the marine environment in this way can minimise damage to sensitive receptors, making this a viable response option for some Group 2 (and above) oil types (depending on the parameters of the spill). Industry experience has shown that the efficiency of on-water containment and recovery operations can vary widely depending on various constraints, and recovery is usually limited to between 5% and 20% of the initial spilt volume. On-water containment and recovery is often considered the primary or preferred response option due to the perceived neutral net impact of its operation on the environment; however, its effectiveness must be considered when selecting a response option during the NEBA process. Where possible, this technique should be used alongside other available response options to achieve the most appropriate, multifaceted response strategy.

7.4.2 Tactics

Several tactics are available to contain and recover oil on water. Typically, on-water containment and recovery is a recommended response option for some Group 2 (and above) oil types (depending on the parameters of the spill) and is implemented using a range of different types of booms and skimmers.

Typical tactics used alone or in combination to contain and recover oil include:

- **Containment Booming (C)**: A fixed-booming strategy used on water to contain and concentrate oil to make it easier to recover using skimmers
- **Passive Recovery (PR)**: Uses sorbent materials to pick up spilt oil from the water's surface
- **Marine Recovery (MR)**: On-water recovery of oil that is already contained or concentrated
- **Shoreside Recovery (SR)***: Uses skimming systems to remove pooled oil from the shoreline to reduce impacts to sensitive receptors
- **Free-oil Recovery (FoR)**: Uses active booming techniques to corral and recover small slicks

- **Transfer and Storage of Oily Liquids (TS)**: Collects oil and oily liquids.

** This is more typically a shoreline clean-up tactic and is likely to form part of the Shoreline Clean-up response option (see Section 7.6).*

Figure 7-5 outlines the process for selecting on-water containment and recovery tactics.

As with all response options, the overall effectiveness of containment and recovery can be limited by operational, environmental, and/or logistical constraints, including:

- **Operational Constraints**: The recovery rate of oil will vary based on the type of skimmer used and weathering phase of the collected hydrocarbon. CAPL and its third-party support agencies have access to various skimmer types (weir, disc, mop, belt etc.); the operational constraints of each type of skimmer should be considered when planning this response option. Ultimately, the total rate of recovery will be dependent on the number of vessels and skimmers used and the environmental conditions.
- **Waste Storage Constraints**: Storing the recovered oil, oily liquids, and oiled debris is a critical component of containment and recovery. Based on skimmer recover rates, the oil-to-water ratio could be as low as 1:10. Therefore, the storage capacity of the vessel undertaking the operation is a major constraint; the EMT should prioritise vessels with a crane and large storage capacities for containment and recovery operations. Decanting oily liquids/water from temporary storage may reduce oily water volumes; however, this may result in hydrocarbons being released. Therefore, decanting oily water from offshore operations will be performed with approval from the Prescribed Officer (WA DoT for State Waters or AMSA for Commonwealth Waters) and relevant HMA.
- **Environmental Constraints**: The efficiency and success of containment and recovery operations depends on the type of hydrocarbon and the metocean conditions (e.g. visibility, wave height, current speed, wind speed).
- **Safety Constraints**: Containing oils with high volatile components may create a fire or explosion risk. The EMT must understand the characteristics of the product spilt and the associated exposure risk before implementing a response.

For spills to water, containment and recovery may be appropriate if the selection criteria outlined in Table 7-10 and Figure 7-5 are met.

The resource capability required to implement this strategy is included in Appendix C (Table C1), which outlines the spill response capabilities and arrangements that CAPL has in place across the business.

Table 7-10: On-water Containment and Recovery Spill Criteria

Criteria	Recommended	Not Recommended
Spill characteristics	• Extended operations • Large patches or continuous release • Fresh or emulsified product	• Low volume spills of light hydrocarbons • Spills located or moving a long way offshore (>200nm from shore) • Situational dependant
Oil type	• Persistent components of Group 1 and 2 oils • Some Group 2 oils and above	• Minor to moderate spills of Group 1 and 2 oils tend to evaporate quickly, reducing the opportunity to contain and recover

Criteria	Recommended	Not Recommended
		• Containing oils with high volatile components may create a fire or explosion risk
Environmental conditions	• Waves <1 m for nearshore systems • Waves <1.8 m for offshore systems • Winds <25 knots • Current <0.75 knots at boom face*	• Wave heights >1.8 m • Current >0.75 knots at boom face*
** Boom angle can be adjusted to reduce current drag; some systems are designed to operate in higher-current environments.*		

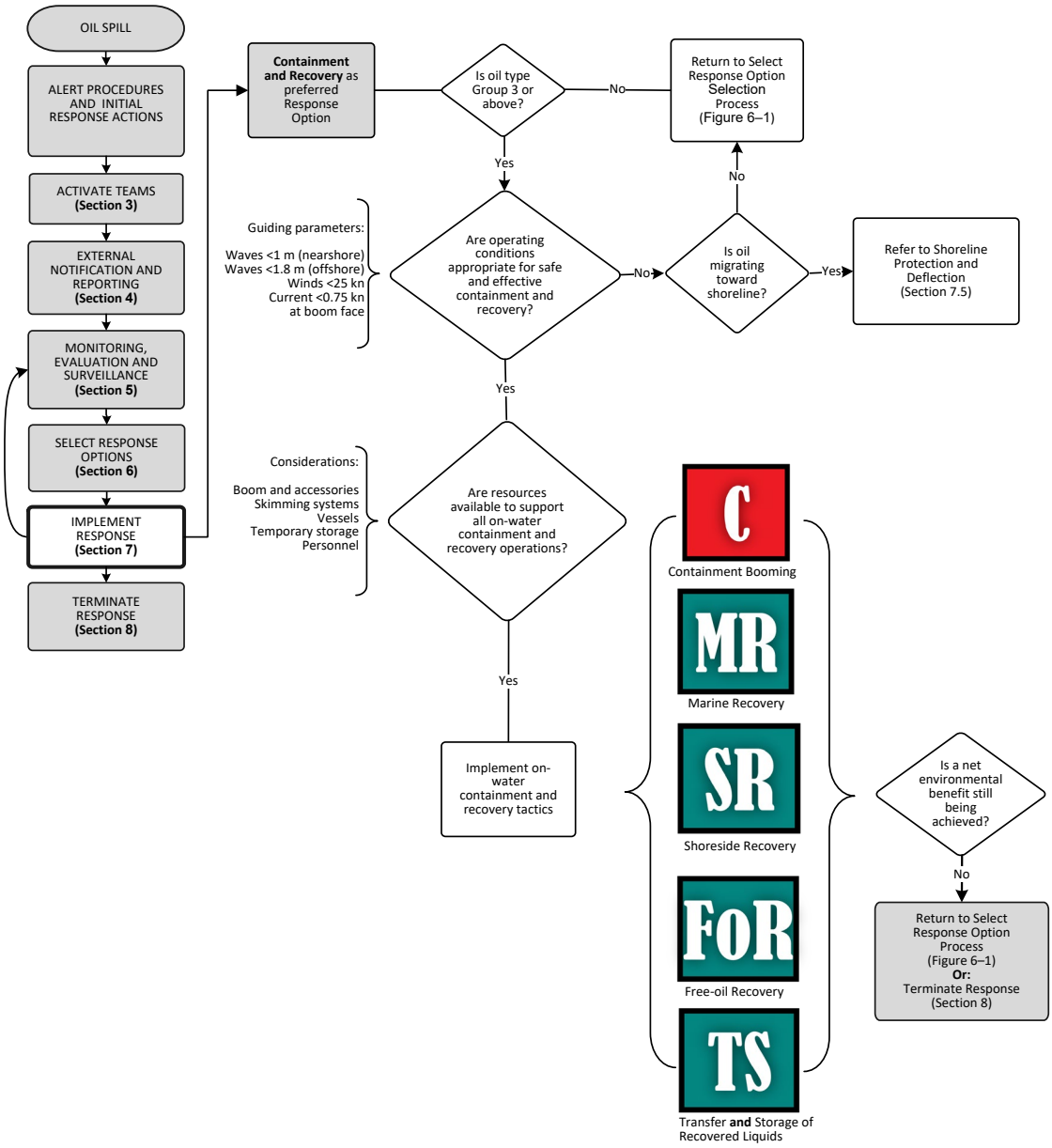

Figure 7-5: On-Water Containment and Recovery Decision Guide

7.4.3 Implementation

Table B4 (in Appendix B) guides the ORT, IEMT, and EMT on tasks and responsibilities that should be considered when implementing this response strategy. The IC is ultimately responsible for implementing the response and therefore, depending on the circumstances of the spill, they may determine that some tasks be varied, should not be undertaken, or should be reassigned.

Further detail on implementing this response option can be found in the Upstream and Gas Oil Spill Response Guidance: Appendix B: Response Tactics Guide (Ref. 28) and the OSRM (Ref. 15).

Table 7-11: Environmental Performance – Containment and Recovery

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
EPO E6 – Maximise the recovery of floating hydrocarbons to reduce the risk of surface oil contacting nearshore and onshore values and sensitivities during an emergency event by containing and recovering surface oil	**Containment and Recovery**	
	E6a) If containment and recovery is selected, CAPL EMT will use the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to plan, coordinate, implement, and terminate offshore operations during training, exercises, and containment and recovery operations	Records show CAPL EMT used the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to plan, coordinate, implement, and terminate offshore operations during training, exercises, and containment and recovery operations
	E6b) If containment and recovery is selected, CAPL EMT will complete identification of vessel availability through existing contracts within 12 hours of EMT activation	Records show CAPL EMT completed identification of vessel availability through existing contracts within 12 hours of EMT activation
	E6c) If containment and recovery is selected, CAPL ORT will commence containment and recovery operations within 24 hours of EMT activation	Records show CAPL ORT commenced containment and recovery operations within 24 hours of EMT activation
	E5d) If containment and recovery is selected, CAPL will resource containment and recovery operations with equipment packages in accordance with the authorised IAP	Records show CAPL resourced containment and recovery operations with equipment packages in accordance with the authorised IAP
	E6e) If containment and recovery is selected, CAPL ORT will undertake containment and recovery operations during daylight hours only on BAOAC Code 4 (discontinuous true oil colour) or Code 5 (continuous true oil colour) and/or ITOPF crude/fuel oil type subject to weather limitations	Records show CAPL ORT carried out containment and recovery operations during daylight hours only on BAOAC Code 4 (discontinuous true oil colour) or Code 5 (continuous true oil colour) and/or ITOPF crude/fuel oil type subject to weather limitations
	E6f) Containment and recovery will continue for the duration of the event in accordance with the IAP, until operational NEBA determines there is no net	Records show that containment and recovery continued for the duration of the event in accordance with the IAP, until operational NEBA determined there was no

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
	environmental benefit, and termination criteria have been met, consistent with Section 8 of this OPEP	net environmental benefit, and termination criteria were met, consistent with Section 8 of this OPEP

7.5 Shoreline Protection and Deflection

Table 7-12: EMT Information for Shoreline Protection and Deflection – Objective, Initiation Criteria, and Termination Criteria

Objective	To reduce hydrocarbon contact and protect sensitive shoreline receptors before a spill reaches identified high-priority shoreline sites
Initiation criteria	Shoreline protection and deflection will be initiated for Level 2 or Level 3 spills when: • shorelines with protection priorities will potentially be impacted; or • NEBA demonstrates that the response strategy is likely to result in a net environment benefit; and, • approval has been obtained from the Control Agency
Termination criteria	Shoreline protection and deflection operations will be terminated (in consultation with the Control Agency) when: • the NEBA has determined that shoreline protection is unlikely to reduce overall impact; or, • shorelines in the path of oil cannot be practicably or safely protected; or, • response technique is proving ineffective; or, • agreement is reached with the jurisdictional authority relevant to the spill to terminate the response

7.5.1 Overview

Shoreline protection and deflection involves using physical barriers to protect sensitive receptors from hydrocarbons, or to deflect hydrocarbons to other strategic areas where they may be more easily collected for recovery.

Selection of the appropriate protection technique for a shoreline depends not only on the type of shoreline and its sensitivity, but also on other factors, including type of oil, time until shoreline contact, metocean conditions, and shoreline accessibility.

Shoreline protection and deflection will take place within WA State Waters, which fall under the Control Agency responsibilities of DoT. Depending on the nature and scale of the spill, these arrangements will likely be in place:

- DoT will assume Control Agency responsibilities within 24-48 hours of the incident.
- CAPL will undertake first-strike protection and deflection activities if required until DoT assumes Control Agency responsibilities.
- On assuming Control Agency responsibilities, DoT will direct shoreline protection resources (equipment and personnel) provided by CAPL.
- CAPL will provide all relevant information on shoreline character and oiling collected as part of MES activities carried out under its control.

7.5.2 Tactics

CAPL has developed TRGs for sites of high environmental and/or socioeconomic sensitivity and vulnerability to oil spills. These TRGs include shoreline protection methods and planned deployment techniques. TRGs were developed for high-priority sites on Barrow Island, the WA mainland, and North West Shelf islands.

The TRGs provide teams with response options and tactics that may suit a particular location under typical conditions. The suggested tactics are flexible and may be modified to meet the actual circumstances of an incident. Note: If a spill occurs, not all TRGs will be implemented; those sites most at risk will be identified through the operational NEBA process and prioritised accordingly.

Typical tactics used for pre-impact shoreline protection and TRG implementation include:

- **Shoreline Containment (SC)**: Uses fixed-booming tactics to corral and concentrate oil for recovery
- **Exclusion Booming (EX)**: Uses a boom as a barrier to exclude spilt oil from specific areas
- **Diversion Booming (DV)**: Uses a boom to divert the flow of oil to a specific site where it can be recovered
- **Deflection Booming (DF)**: Uses a boom to redirect the flow of oil away from an area
- **Berms (Bunds), Dams, and Dikes (Bdd)**: Uses embankments and other physical barriers to exclude oil from sensitive areas and sometimes to concentrate it for recovery
- **Shoreside Recovery (SR)***: Uses skimming systems to remove pooled oil from the shoreline to reduce impacts to sensitive receptors
- **Passive Recovery (PR)**: Uses sorbent materials to collect oil and remove it from the environment. As a pre-impact tactic, sorbents are deployed ahead of the oil to prevent it from contacting sensitive receptors
- **Free-oil Recovery (FoR)**: Uses marine skimming systems to remove oil from the water surface before it reaches the shoreline
- **Non-oiled Debris Removal (DR)**: Removes debris from the shoreline to reduce potential contamination and reduce the waste stream.

** This is more typically a shoreline clean-up tactic, and likely to form part of the Shoreline Clean-up response option (see Section 7.6).*

Figure 7-6 outlines the process for selecting which shoreline protection and TRG tactics to apply.

The resource capability required to implement this strategy is included in Appendix C (Table C1), which outlines the spill response capabilities and arrangements that CAPL has in place across the business.

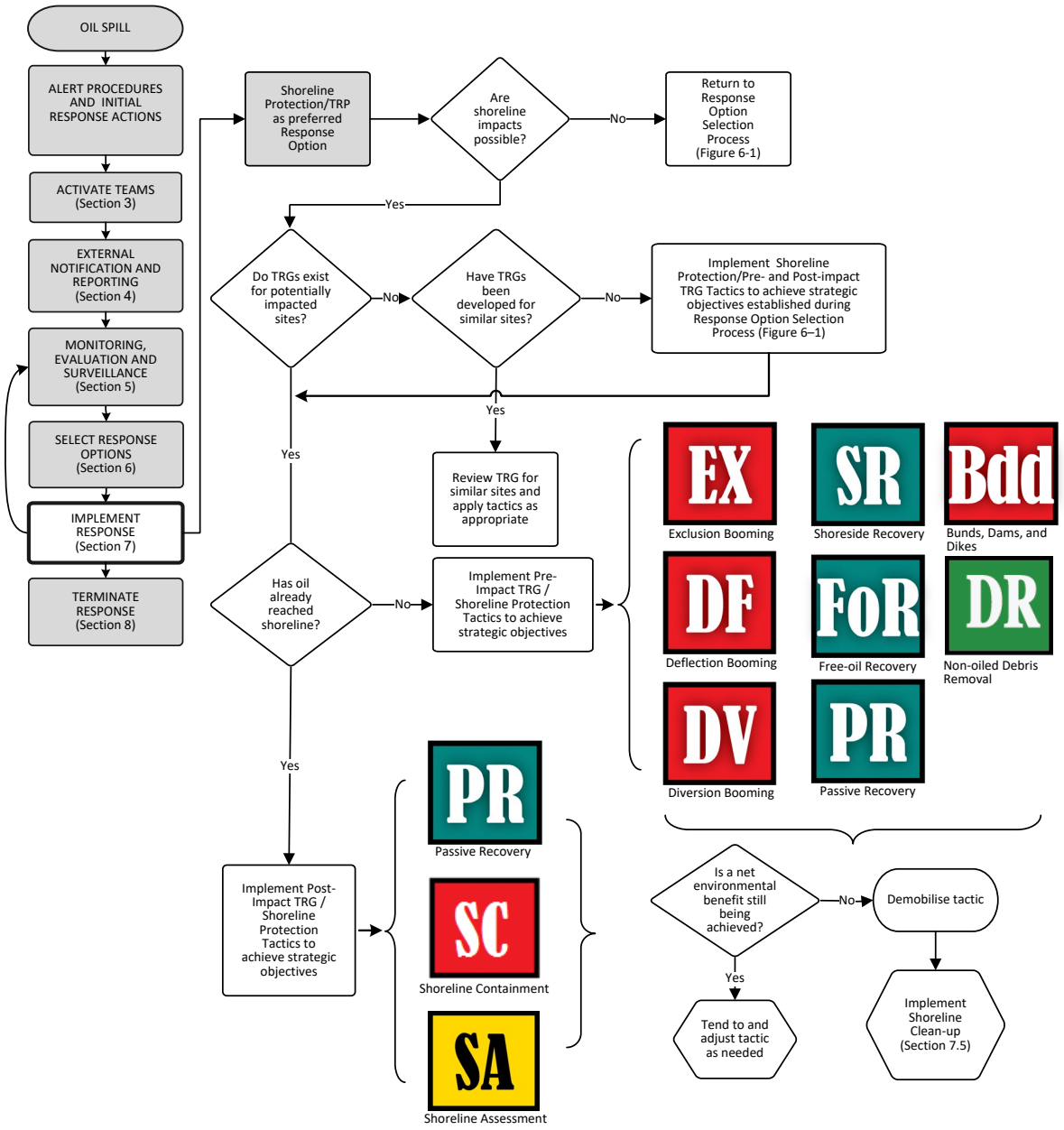

Figure 7-6: Shoreline Protection and Tactical Response Plan (TRP) Decision Guide

7.5.3 Implementation

Table B5 (in Appendix B) guides the ORT, IEMT, and EMT on tasks and responsibilities that should be considered when implementing this response strategy. The IC is ultimately responsible for implementing the response and therefore, depending on the circumstances of the spill, they may determine that some tasks be varied, should not be undertaken, or should be reassigned.

Further detail on implementing this response option can be found in the Upstream and Gas Oil Spill Response Guidance: Appendix B: Response Tactics Guide (Ref. 28) and the OSRM (Ref. 15).

Table 7-13: Environmental Performance – Shoreline Protection and Deflection

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
EPO E7 – Reduce the risk of hydrocarbons contacting marine habitat values and sensitivities during an emergency event by implementing nearshore operations	**Shoreline Protection and Deflection**	
	E7a) If shoreline protection and deflection is selected, CAPL EMT will use the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to plan, coordinate, implement, and terminate operations during training, exercises, and shoreline protection and deflection operations	Records show CAPL EMT used the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to plan, coordinate, implement, and terminate operations during training, exercises, and shoreline protection and deflection operations
	E7b) If shoreline protection and deflection is selected, CAPL EMT will identify vessel availability through existing contracts within 24 hours of EMT activation	Records show CAPL EMT identified vessel availability through existing contracts within 24 hours of EMT activation
	E5c) If shoreline protection and deflection is selected, CAPL will resource shoreline protection and deflection operations with equipment packages in accordance with the authorised IAP	Records show CAPL resourced shoreline protection and deflection operations with equipment packages in accordance with the authorised IAP
	E7d) Shoreline protection and deflection will continue for the duration of the event in accordance with the IAP, until operational NEBA determines there is no net environmental benefit, and termination criteria has been met, consistent with Section 8 of this OPEP	Records show that shoreline protection and deflection continued for the duration of the event in accordance with the IAP, until operational NEBA determined there was no net environmental benefit, and termination criteria was met, consistent with Section 8 of this OPEP

7.6 Shoreline Clean-up

Table 7-14: EMT Information for Shoreline Clean-up – Objective, Initiation Criteria, and Termination Criteria

Objective	To assess the extent and severity of shoreline oiling and apply clean-up tactics to remove as much oil as possible to minimise impacts on protection priorities
Initiation criteria	Shoreline clean-up will be initiated for Level 2 or Level 3 spills when: • shorelines with protection priorities will potentially be, or have been, impacted; and • NEBA demonstrates that the response strategy is likely to result in a net environment benefit; and, • approval has been obtained from the Control Agency
Termination criteria	As directed by the Control Agency

7.6.1 Overview

Shoreline clean-up is used to assess the extent and severity of shoreline oiling and apply clean-up tactics to remove as much oil as possible. Shoreline clean-up occurs after impact but aims to reduce the overall adverse impacts from a spill by removing oil from contaminated shorelines to prevent its remobilisation and/or cross-contamination (e.g. by foraging fauna).

As with other shoreline response options, shoreline clean-up will take place within WA State Waters, which fall under the Control Agency responsibilities of DoT. CAPL will undertake first-strike clean-up where required. On assuming Control Agency responsibilities, DoT will direct shoreline clean-up resources (equipment and personnel) provided by CAPL. CAPL will provide all relevant information on shoreline character and oiling collected as part of MES activities carried out under its control.

7.6.2 Tactics

The selection of the most appropriate shoreline clean-up tactics requires evaluating the degree and type of contamination, together with the length, nature, and accessibility of the affected coastline. Shoreline clean-up and treatment is an iterative process, requiring systematic surveys of impacted areas before, during, and after clean-up; systematic shoreline surveys are a crucial component of effective decision-making. Repeated surveys are needed to monitor the effectiveness and effects of ongoing treatment methods (i.e. changes in shoreline oiling conditions, as well as NR), so that the need for changes in methodology, additional treatment, or constraints can be evaluated.

Tactics that may be used alone or in combination to clean up oiled shorelines, include:

- **Shoreline Assessment (SA)**: Uses the oiled shoreline assessment (OSA) process (refer to OSMP, Ref. 8) to evaluate shoreline segments, establish clean-up priorities, and identify suitable tactics. Typically, this is the first step in any shoreline clean-up response
- **Natural Recovery (NR)**: Oiled shorelines are left untreated and the oil naturally degrades over time
- **Manual and Mechanical Removal (MMR)**: Removes oil and contaminated materials using machinery and/or hand tools

- **Washing, Flooding, and Flushing (Wff)**: Uses water, steam, or sand to flush oil from impacted shoreline areas
- **Sediment Reworking and Surf washing (SR)**: Uses various methods to accelerate natural degradation of oil by manipulating the sediment.

Considerations for selecting and applying shoreline clean-up tactics are included in Figure 7-7. Table 7-15 summarises the recommended treatment options based on shoreline type (green shading indicates the recommended option). Clean-up endpoints should be clearly established early in the process.

The resource capability required to implement this strategy is included in Appendix C (Table C1), which outlines the spill response capabilities and arrangements that CAPL has in place across the business.

Table 7-15: Shoreline Clean-up Selection Factors by Shoreline Type, Oil, Degree of Oiling

Shoreline Type	ITOPF Oil Type	Degree of Oiling*	Shoreline Clean-up Tactic			
			Natural Recovery	Manual and Mechanical	Sediment Reworking	Flooding and Flushing
Exposed Rocky Shores	Group 1	Light	X	X	X	X
		Moderate	X	X		X
		Heavy	X			X
	Group 2	Light	X	X	X	X
		Moderate	X	X		X
		Heavy	X	X		X
	Group 3/4	Light		X		X
		Moderate		X		X
		Heavy				X
Sandy Shores and Beaches	Group 1	Light	X	X	X	X
		Moderate	X			X
		Heavy				X
	Group 2	Light	X	X	X	X
		Moderate	X	X		X
		Heavy		X		X
	Group 3/4	Light		X		
		Moderate		X		
		Heavy		X		
Artificial Structures	Group 1	Light	X	X		X
		Moderate	X	X		X
		Heavy		X		X
	Group 2	Light	X	X		X
		Moderate	X	X		X
		Heavy		X		X
	Group 3/4	Light		X		X
		Moderate		X		X

Shoreline Type	ITOPF Oil Type	Degree of Oiling*	Shoreline Clean-up Tactic			
			Natural Recovery	Manual and Mechanical	Sediment Reworking	Flooding and Flushing
		Heavy		X		X
Sheltered Rocky Shores	Group 1	Light	X	X	X	X
		Moderate	X	X	X	X
		Heavy				X
	Group 2	Light	X	X	X	X
		Moderate	X	X	X	X
		Heavy		X		X
	Group 3/4	Light	X	X	X	X
		Moderate	X	X	X	X
		Heavy		X		X
Mud and Tidal Flats	Group 1	Light	X	X		X
		Moderate	X			X
		Heavy				X
	Group 2	Light	X	X		X
		Moderate	X	X		X
		Heavy				X
	Group 3/4	Light	X	X		X
		Moderate	X			X
		Heavy				X
Mangroves and Wetlands	Group 1	Light	X	X		X
		Moderate	X			X
		Heavy				X
	Group 2	Light	X	X		X
		Moderate	X	X		X
		Heavy				X
	Group 3/4	Light	X	X		X
		Moderate		X		X
		Heavy				X
** Refer to OSRM (Ref. 15) for guidance on determining the estimated degree of oiling*						

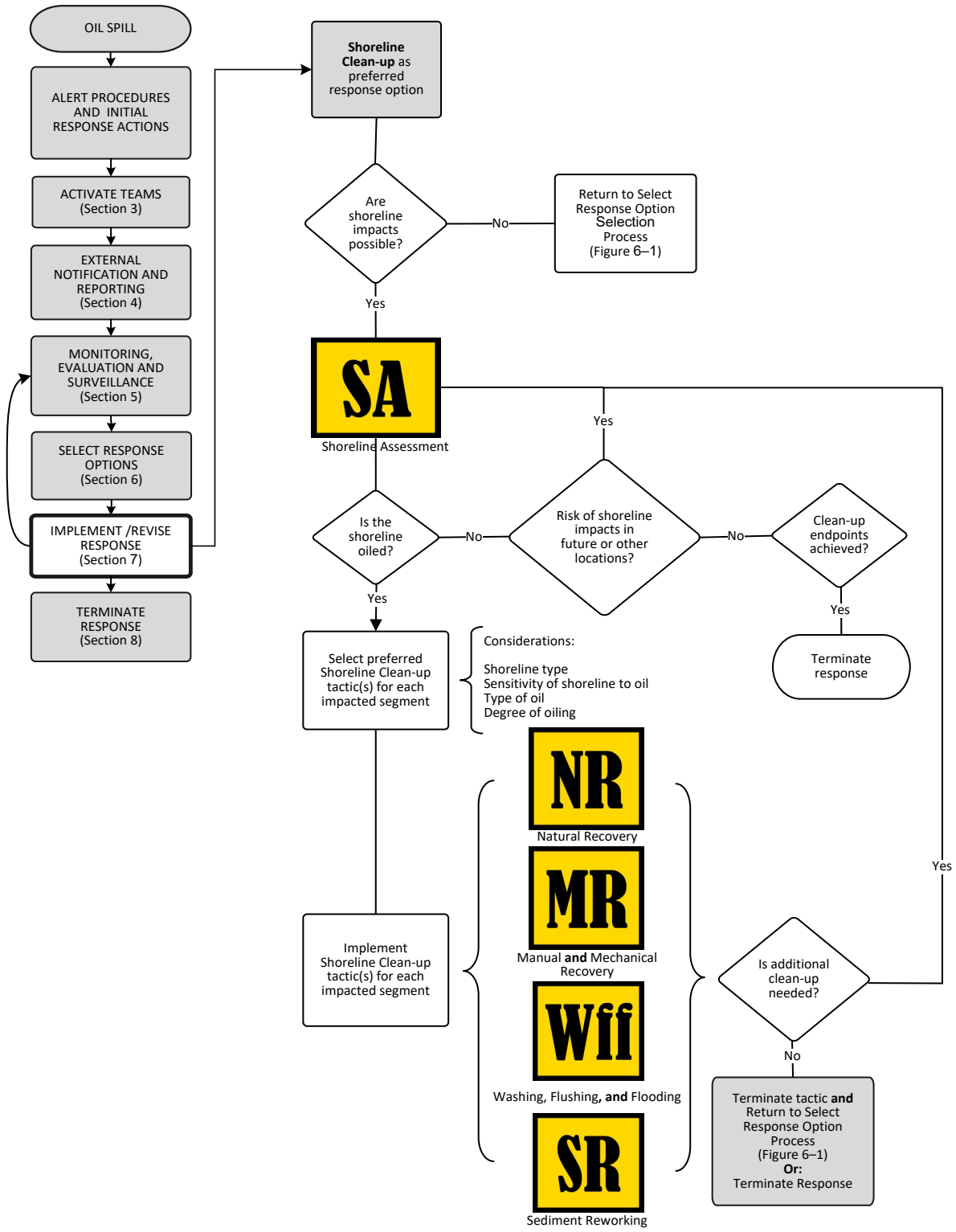

Figure 7-7: Shoreline Clean-up Operations Decision Guide

7.6.3 Implementation

Table B6 (in Appendix B) guides the ORT, IEMT, and EMT on tasks and responsibilities that should be considered when implementing this response

strategy. The IC is ultimately responsible for implementing the response and therefore, depending on the circumstances of the spill, they may determine that some tasks be varied, should not be undertaken, or should be reassigned.

Further detail on implementing this response option can be found in the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) and the OSRM (Ref. 15).

Table 7-16: Environmental Performance – Shoreline Clean-up

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
EPO E8 – Reduce the risk of hydrocarbons contacting marine habitat values and sensitivities during an emergency event by implementing onshore operations	**Shoreline Clean-up**	
	E8a) If shoreline clean-up is selected, CAPL EMT will use the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to plan, coordinate, implement, and terminate operations during training, exercises, and shoreline clean-up operations	Records show CAPL EMT used the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to plan, coordinate, implement, and terminate operations during training, exercises, and shoreline clean-up operations
	E8b) If shoreline clean-up is selected, CAPL EMT will identify vessel and land-based logistics availability through existing contracts within 12 hours of EMT activation	Records show CAPL EMT identified vessel and land-based logistics availability through existing contracts within 12 hours of EMT activation
	E8c) If shoreline clean-up is selected, CAPL ORT will complete evaluation of shoreline segments, establish clean-up priorities, and identify suitable tactics within 6 hours of assessment completion	Records show CAPL ORT completed evaluation of shoreline segments, established clean-up priorities, and identified suitable tactics within 6 hours of assessment completion
	E8d) If shoreline clean-up application is selected, CAPL will resource shoreline clean-up operations with equipment packages in accordance with the authorised IAP	Records show CAPL resourced shoreline clean-up operations with equipment packages in accordance with the IAP

7.7 Oiled Wildlife Response

Table 7-17: EMT Information for Oiled Wildlife – Objective, Initiation Criteria, and Termination Criteria

Objective	To reduce impact and damage to fauna threatened by a spill by implementing the ABU Oil Spill Response Guidance Note – Oiled Wildlife Response (Ref. 9)
Initiation criteria	OWR will be initiated when: • MES activities and/or operational monitoring activities indicate wildlife are at risk of contact, or have been contacted, by the spill • NEBA demonstrates that the response strategy is likely to result in a net environmental benefit
Termination criteria	OWR will be terminated when: • agreement is reached with jurisdictional authorities and stakeholders to terminate the response, and • no wildlife have been observed in the trajectory of the spill, and • oiled wildlife have been successfully rehabilitated

7.7.1 Overview

Oiled wildlife response (OWR) is a support function that is implemented alongside other response options if applicable and commensurate to the scale and nature of the spill. It includes wildlife hazing, pre-emptive capture, and capturing, cleaning, treating, and rehabilitating animals that have been oiled. It also includes collecting dead animals, performing post-mortem examinations, and disposing of dead animals that have succumbed to the effects of oiling.

The responsibility for an OWR depends on location and spill origin. These arrangements will apply for CAPL operations:

- If the OWR is required in State Waters, DBCA will be the Jurisdictional Authority and will support the Control Agency.
- As the Jurisdictional Authority, DBCA retains the responsibility and statutory authority to treat, protect, and destroy wildlife as outlined in the *Biodiversity Conservation Act 2016* (WA).
- The WA DoT will be the Control Agency for an OWR is required in State Waters
- CAPL will provide access to AMOSC oiled wildlife resources to assist DoT. Timely provision of equipment and personnel will be provided by AMOSC to DoT as the Control Agency/lead EMT through a combination of call-off contracts with suppliers, and by managing industry OWR response personnel through CAPL's Oiled Wildlife Advisor (OWA), who will also liaise with the lead agency of the response and advise CAPL's EMT.
- In Commonwealth Waters, DotEE is the Jurisdictional Authority for oiled wildlife. DotEE may delegate authority for oiled wildlife to DBCA. Note, DotEE is soon to be the Department of Industry, Science, Energy and Resources (DISER).
- CAPL is the Control Agency for OWR in Commonwealth Waters.
- Where CAPL is the Control Agency for OWR in Commonwealth Waters, AMOSC will also provide the above-mentioned resources and be supported by DBCA, but would work under the direction of the CAPL's EMT.

The arrangements for OWR in WA are outlined in the WAOWRP (Ref. 19) and the Western Australian Oiled Wildlife Response Manual (Ref. 20). The WAOWRP and accompanying Manual has been developed by DBCA and AMOSC, on behalf of the petroleum industry, to define the minimum standards for OWR in WA as a sub-plan to the State Hazard Plan: MEE (Ref. 3). The WAOWRP can also be used to guide OWR in Commonwealth Waters; however, the OWR requirements in State Waters are typically greater. The PROWRP (Ref. 30), which sits under the WAOWRP, provides operational guidance to respond to injured and oiled wildlife in the Pilbara region and covers the areas potentially contacted by a spill from CAPL operations.

7.7.2 Tactics

OWR tactics and techniques are intended to mitigate adverse wildlife impacts by reducing the number of animals that come into contact with spilt oil, capturing and rehabilitating oiled fauna, and removing oiled carcasses to reduce secondary impacts.

Supporting information on these activities is contained in the ABU Oil Spill Response Guidance Note – Oiled Wildlife Response (Ref. 9). This Guidance Note provides the CAPL EMT with ABU-specific information relating to an OWR; it aligns with the WAOWRP (Ref. 19), the Western Australian Oiled Wildlife Response Manual (Ref. 20), the PROWRP (Ref. 30), and this OPEP. Specifically, the OWR Guidance Note helps CAPL to:

- effectively activate and manage initial response activities relating to OWR
- guide oiled wildlife responders in planning, coordinating, implementing, and terminating OWR
- identify CAPL's OWR level of response capability and required resourcing
- support OWR agencies
- conduct OWR in compliance with internal fauna management practices, where practicable.

The OWR Guidance Note (Ref. 9) is the key document for an OWR. The tactics implemented for an OWR are outlined in this document, and align with the eight phases of an OWR outlined in the WAOWRP (Ref. 19), as appropriate to the nature and scale of the incident.

Further information on the OWR techniques and implementing tactics associated with the eight phases are addressed in the OWR Guidance Note (Ref. 9). The resource capability required to implement this strategy is included in Appendix C (Table C1), which outlines the spill response capabilities and arrangements that CAPL has in place across the business.

7.7.3 Implementation

OWR activities can be resource-intensive and may require additional personnel to be included within the EMT. The OWR team will be managed according to the typical EMT command structure; specifically, there will be wildlife roles within the planning, finance/administration, and logistics sections (as relevant to the nature and scale of the spill and the potential size and complexity of the OWR). The operations section will contain all the field staff and activities, including oiled wildlife reconnaissance, which is outlined in further detail within the OSMP

(Ref. 8). The IAP Wildlife Response Sub-plan will form the key management system that will provide control and oversight over the OWR.

Allowing for the potential size and complexity of an OWR, specific implementation guidance for all stages of an OWR is contained in Appendix A of the OWR Guidance Note (Ref. 9); this guidance should be read in conjunction with the WAOWRP (Ref. 19) and Western Australian Oiled Wildlife Response Manual (Ref. 20). In some cases, the guidance in the OWR Guidance Note will provide additional detail to the WAOWRP and have greater linkages to other aspects of the response operation and response options and activities outlined in this OPEP (e.g. operational monitoring and MES).

Table 7-18: Environmental Performance – Oiled Wildlife Response

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
EPO E9 – Locate, identify, and treat avian and marine wildlife that are contacted by oil	**Oiled Wildlife Response**	
	E9a) If OWR is selected, CAPL EMT will use the OWR Guidance Note (Ref. 9) to plan, coordinate, implement, and terminate operations during training, exercises, and OWR operations	E7b) Records show CAPL EMT used the OWR Guidance Note (Ref. 9) to plan, coordinate, implement, and terminate operations during training, exercises, and OWR operations
	E9b) If OWR is selected, CAPL ORT will coordinate OWR operations with trained Oiled Wildlife Advisor with relevant government agencies within 4 hours of confirmed wildlife contact	Records show OWR operations with trained Oiled Wildlife Advisor were coordinated with relevant government agencies within 4 hours of confirmed wildlife contact
	E9c) If OWR is selected, CAPL EMT will identify availability of vessels and land-based logistics through existing contracts within 12 hours of response option selection	Records show identification of vessel and land-based logistics availability through existing contracts within 12 hours of response option selection
	E9d) If OWR is selected, CAPL EMT will mobilise at least one pre or post impact fauna package to priority locations in accordance with the authorised IAP	Records show that CAPL mobilised at least one pre or post impact fauna package to priority locations in accordance with the authorised IAP
	E9e) If OWR is selected, CAPL ORT will supervise OWR activities using two trained oiled wildlife responders per operation, with additional support personnel from CAPL (within 24 hours) and third-party service providers (within 48 hours)	Records show OWR activities were supervised using two trained oiled wildlife responders per operation, with additional support personnel from CAPL (within 24 hours) and third-party service providers (within 48 hours)
	E9f) OWR will continue for the duration of the event in accordance with the IAP, until operational NEBA determines there is no net environmental benefit, and termination criteria have been met, consistent with Section 8 of this OPEP	Records show that OWR continued for the duration of the event in accordance with the IAP, until operational NEBA determined there was no net environmental benefit, and termination criteria were met, consistent with Section 8 of this OPEP

7.8 Waste Management

7.8.1 Overview

Waste management is considered an important support function to the overall response effort, so it has no set objective, or initiation or termination criteria. However, it is a critical support function during a spill response, and is needed to manage the collection, storage, transportation, recovery, and/or disposal of liquid and solid wastes.

Some spill response strategies will generate solid and liquid waste that will require rapid management, storage, transport, and disposal. Such waste must be collected and removed quickly to ensure waste management does not create a bottleneck in response operations.

7.8.2 Tactics

Waste management requirements and tactics differ depending on the particular parameters of an incident and the response options and tactics deployed. For this reason, an incident-specific WMP will be prepared (using the Oil Spill Response Waste Management Plan Template contained within the Oil Spill Response Waste Management Guidance Note [Ref. 13]) in the event of an oil spill, to address and document the methods and procedures for waste management in response to the incident.

The overall objective of the WMP is to ensure the safe and efficient handling and disposal of all wastes generated by oil spill response, recovery, and clean-up activities, with an aim to:

- identify the types and quantities of wastes generated as a result of the spill
- establish and support the operation of temporary waste management areas
- source and deploy appropriate waste receptacles and resources
- facilitate the safe and efficient labelling, transport, and tracking of oiled wastes to appropriate waste management areas and facilities
- facilitate the appropriate storage, treatment, and recovery, and/or disposal of waste
- prevent further contamination of clean areas
- manage wastes in accordance with relevant Commonwealth and State regulations, and in consultation with relevant authorities.

Oily waste will also be generated during decontamination activities, which will occur at two stages in an oil spill response:

- during the response (waste management is required to prevent cross-contamination and ensure continuity of resources for the response)
- following response termination (waste management is required to ensure all equipment, vehicles, and vessels are decontaminated before they are returned to storage or next deployment).

The EMT should complete the Decontamination Plan Template (Ref. 10) in conjunction with the incident-specific WMP. The decontamination plan describes the approach used by ORTs to decontaminate personnel, vessels, and equipment during an oil spill response operation.

CAPL's approved third-party waste management contractor (see Contacts Directory, Ref. 12), a registered DMIRS-approved emergency responder, has sufficient resources (trained personnel and equipment) to ensure efficient and appropriate containment, storage, transport, treatment, recovery, and/or disposal of wastes associated with an oil spill.

The resource capability required to implement this strategy is included in Appendix C (Table C1), which outlines the spill response capabilities and arrangements that CAPL has in place across the business.

7.8.3 Implementation

The EMT must incorporate waste management into response planning from the beginning. The ABU Oil Spill Response Guidance Note – Waste Management (Ref. 13) provides the EMT with all the relevant information required for managing waste generated during an oil spill.

Waste produced as a result of an oil spill will be managed in accordance with this Waste Management Guidance Note (Ref. 13), along with MARPOL 73/78 (as appropriate to vessel class) and relevant Commonwealth and State regulations. CAPL will engage its waste management contractor to finalise the WMP at the time of a spill. The WMP will detail the types and volumes of waste that may be generated, finalise details of waste handling and storage, and provide detailed waste disposal plans. This WMP will be based on information in the Waste Management Guidance Note (Ref. 13), the Oil Spill Response Waste Management Plan Template (contained within the Guidance Note), and the Decontamination Plan Template (Ref. 10).

Specific implementation guidance for waste management is contained in Appendix A of the Waste Management Guidance Note (Ref. 13). The actions described in the Guidance Note guide the ORT, IEMT, and EMT on tasks and responsibilities that should be considered when implementing this response strategy. The IC is ultimately responsible for implementing the response and therefore, depending on the circumstances of the spill, they may determine that some tasks be varied, should not be undertaken, or should be reassigned.

Table 7-19: Environmental Performance – Waste Management

Environmental Performance Objective(s)	Environmental Performance Standard(s)	Measurement Criteria
EPO E10 – Collect, segregate, package, and dispose of waste generated to a licensed facility from emergency event operations to minimise secondary contamination of coastal values and sensitivities	**Waste Management**	
	E10a) If waste management is selected as a response option, CAPL EMT will identify the availability of vessel and land-based logistics through existing contracts within 12 hours of EMT activation	Records show CAPL EMT identified vessel and land-based logistics availability through existing contracts within 12 hours of EMT activation
	E10b) If waste management is selected as a response option, CAPL EMT will activate the waste management contractor within 4 hours of EMT activation	Records show CAPL EMT activated the waste management contractor within 4 hours of EMT activation
	E10c) CAPL EMT will ensure all waste generated from emergency event operations is collected, accounted for, and tracked through to final disposal at a licensed facility	Records show CAPL EMT ensured all waste generated from emergency event operations is collected, accounted for, and tracked through to final disposal at licensed facility

8 Termination of Response and Demobilisation

The termination of a spill response includes ceasing response operations, demobilising equipment, post-incident reporting, reviewing and updating plans, restoring and recovering injured environments, and resupplying equipment.

In accordance with the NATPLAN (Ref. 1), the decision to terminate response operations is made in conjunction with relevant government authorities, which may include DoT and DMIRS for State Waters and AMSA and NOPSEMA for Commonwealth Waters. The response termination process may require days or weeks to complete, depending on the scope and scale of the response. Figure 8-1 summarises the process for terminating an oil spill response and the associated activities.

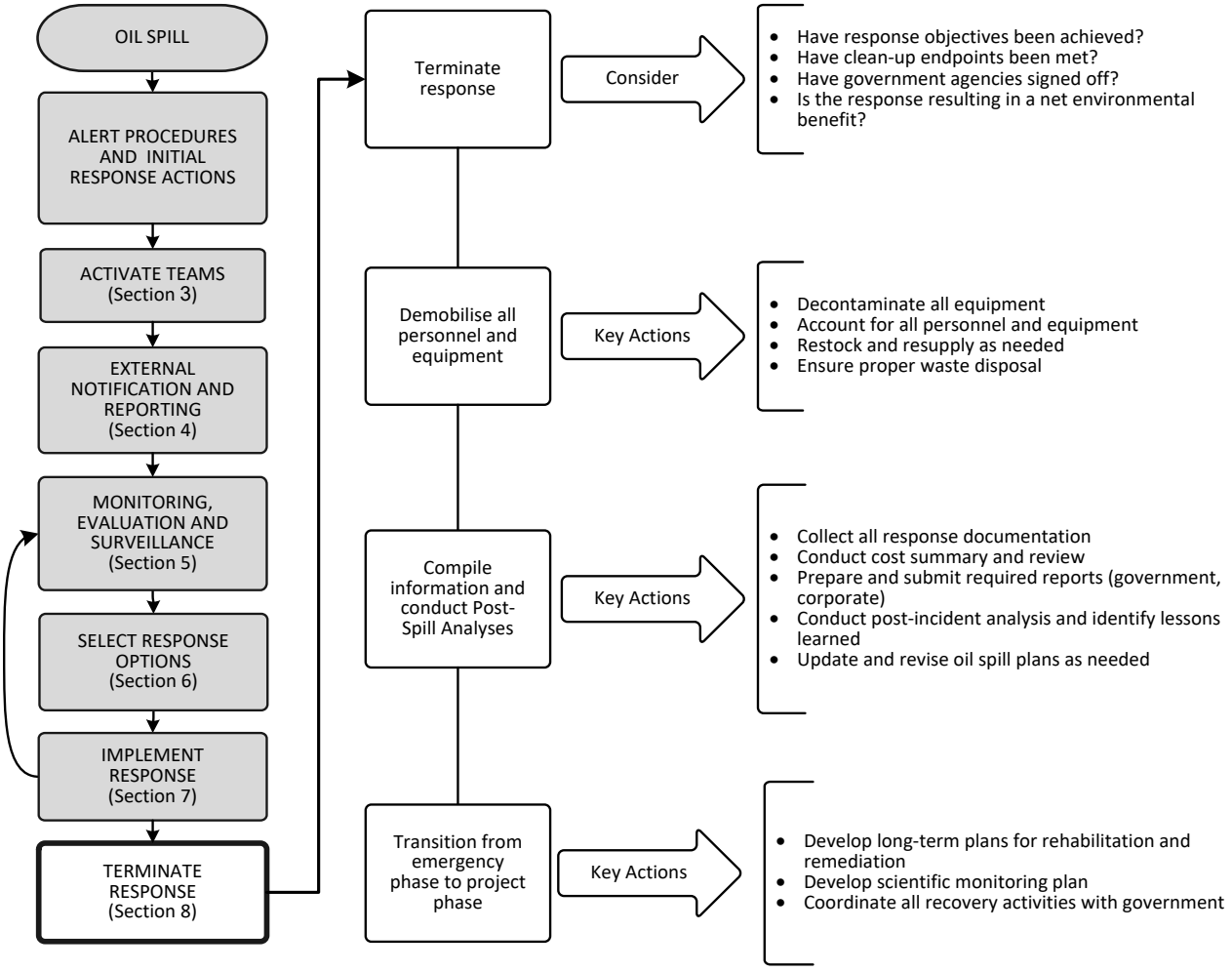

Figure 8-1: Response Termination Process

CAPL will conduct a post-incident response analysis, in the event of a spill associated with the EPs.

9 Review and Revise

This OPEP is required to be reviewed, and if applicable updated, to ensure maintenance of the response capability and confirm that all relevant information is accurate and that new information or improved technology is evaluated and used to adapt and improve the management of spills.

This document shall be reviewed, updated (if required) and submitted to DMIRS within every 2.5 years from date of acceptance and submitted to NOPSEMA within every 5 years from date of acceptance.

The document may also be reviewed and revised more frequently, if required, in accordance with the CAPL's Management of Change Procedure, as outlined in the activity specific EPs. This could include changes required in response to one or more of the following:

- Changes to the Activity described in the EP that affect oil spill response coordination or capabilities;
- Identification of a significant new or increased spill risk that affect oil spill response coordination or capabilities;
- Following testing of the OPEP (under regulation 14(8) of the OPGGS (E) Regulations) if improvements are identified; or
- After a Level 2/3 spill incident.

Significant modification to this OPEP and CAPL's oil pollution response arrangements that materially alters the basis upon which an activity specific EP (that this OPEP supports) was accepted may require that EP to be revised and submitted to NOPSEMA under regulation 17 of the OPGGS (E) Regulations.

10 Acronyms and Abbreviations

Table 10-1 defines the acronyms and abbreviations used in this document.

Table 10-1: Acronyms and Abbreviations

Acronym/ Abbreviation	Meaning
~	Approximately
<	Less/fewer than
>	Greater/more than
°C	Degrees Celsius
µm	Micrometre. 1 µm = 10^{-6} metre = 0.000001 metre or one millionth of a metre
2D	Two-dimensional
ABU	Australian Business Unit
ADIOS2	Automated Data Inquiry for Oil Spills
AHC	Active Heave Compensation
ALARP	As Low As Reasonably Practicable
AMOSC	Australian Marine Oil Spill Centre
AMOSPlan	Australian Industry Cooperative Oil Spill Response Arrangements
AMSA	Australian Maritime Safety Authority
AND	Assisted Natural Dispersion
API	American Petroleum Institute
BAOAC	Bonn Agreement Oil Appearance Code
Bdd	Berms (bunds), dams, and dikes
BOM	Bureau of Meteorology
BOP	Blowout Preventer
BWIJV	Barrow Island Joint Venture
C	Containment Booming
CAPL	Chevron Australia Pty Ltd
CCR	Central Control Room
CCTV	Closed-circuit Television
CMT	Crisis Management Team
Commonwealth	Commonwealth of Australia
Commonwealth Waters	Waters stretching from three to 200 nautical miles from the Australian coast
Control Agency	The organisation assigned by legislation, administrative arrangements, or within the relevant contingency plan, to control response activities to a maritime environmental emergency. Control Agencies have the operational responsibility for response and clean-up activities, but may have arrangements in place with other parties to provide response assistance under their direction.
COP	Common Operating Picture
Cp	Command Post
cP	Centipoise
DBCA	Western Australian Department of Biodiversity, Conservation and Attractions

Acronym/ Abbreviation	Meaning
DF	Deflection Booming
DMIRS	Western Australian Department of Mines, Industry Regulation and Safety
DO	Dissolved Oxygen
DomGas	Domestic Gas
DoT	Western Australian Department of Transport
DotEE	Commonwealth Department of the Environment and Energy
DR	(non-oiled) Debris Removal
DV	Diversion Booming
DWER	Western Australian Department of Water and Environmental Regulation
ECC	Emergency Command Centre
EMBA	Environment that May Be Affected
EMT	Emergency Management Team
EP	Environment Plan
EPO	Environmental Performance Objective
ERP	Emergency Response Plan
ERT	Emergency Response Team
EX	Exclusion Booming
FM	Fate and Weathering Modelling
FOG	Field Operation Guide
FoR	Free-oil Recovery
FSO	Floating Storage and Offloading
FWADC	Fixed-wing Aerial Dispersant Contract
g/m^2	Grams per square metre
GIS	Geographic Information System
GPS	Global Positioning System
GTP	(Gorgon) Gas Treatment Plant
HES	Health, Environment, and Safety
HFO	Heavy Fuel Oil
HMA	Hazard Management Agency
IAA	Impact Assessment Area
IAP	Incident Action Plan / Planning
IC	Incident Commander
IEMT	Installation Emergency Management Team
IFO	Intermediate Fuel Oil
IMG	Incident Management Guide
IMT	Incident Management Team
Insolation	Solar radiation received on a given body or over a given area
ITOPF	International Tanker Owners Pollution Federation Ltd

Acronym/ Abbreviation	Meaning
JHA	Job Hazard Analysis
Jurisdictional Authority	The agency responsible for verifying that an adequate spill response plan is prepared and, in the event of an incident, that a satisfactory response is implemented. The Jurisdictional Authority is also responsible for initiating prosecutions and the recovery of clean-up costs on behalf of all participating agencies.
kg/m^3	Kilograms per cubic metre
km	Kilometre
LEL	Lower Explosive Limit
LNG	Liquefied Natural Gas
LOWC	Loss of Well Control
m	Metre
m^3	Cubic metre
MDO	Marine Diesel Oil
MEE	Maritime Environmental Emergencies
MEER	Maritime Environmental Emergency Response (unit within DoT)
MES	Monitoring, Evaluation, and Surveillance
Metocean	Meteorological and oceanographic conditions
mm	Millimetre
MMR	Manual and Mechanical Removal
MoC	Management of Change
MODU	Mobile Offshore Drilling Unit
MOF	Materials Offloading Facility
MOP	Marine Oil Pollution
MR	Marine Recovery
N/A	Not Applicable
NATPLAN	The National Plan for Maritime Environmental Emergencies
NEBA	Net Environmental Benefit Analysis
NES	Matters of National Environmental Significance
nm	Nautical mile
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NOPTA	National Offshore Petroleum Titles Administrator
NR	Natural Recovery
OC	On-Scene Commander
OIE	Offset Installation Equipment
OIM	Offshore Installation Manager
OMP	Operational Monitoring Plan
OPEP	Oil Pollution Emergency Plan (this document)
OPGGS(E)R	Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Environment) Regulations 2009

Acronym/ Abbreviation	Meaning
OPIGN	Offshore Petroleum Industry Guidance Note
ORT	On-site Response Team
OSA	Oiled Shoreline Assessment
OSCA	Oil Spill Control Agents
OSMP	Operational and Scientific Monitoring Plan
OSRL	Oil Spill Response Limited
OSRM	Oil Spill Response Manual
OSRO	Oil Spill Response Organisation
OWA	Oiled Wildlife Advisor
OWR	Oiled Wildlife Response
PD	Plume Delineation
PEMT	Perth Emergency Management Team
Petroleum Activity	Any operations or works in an offshore area carried out for the purpose of: (a) exercising a right conferred on a petroleum titleholder under the Act by a petroleum title; or (b) discharging an obligation imposed on a petroleum titleholder by the Act or a legislative instrument under the Act
Petroleum Titleholder	a petroleum exploration permittee; or a petroleum retention lessee; or a petroleum production licensee; or the registered holder of a petroleum special prospecting authority; or the registered holder of a petroleum access authority; or the holder of a scientific investigation consent
PLF	Product Loading Facility
POLREP	Pollution Report
ppb.hr	Parts per billion per hour
PPE	Personal Protective Equipment
ppm	Parts per million
PR	Passive Recovery
PROWRP	Pilbara Region Oiled Wild Response Plan
psi	Pounds per square inch
ROV	Remotely Operated Vehicle
RS	Remote Sensing
SA	Shoreline Assessment
SC	Shoreline Containment
SCERP	Source Control Emergency Response Plan
SFRT	Subsea First-response Toolkit
SITREP	Situation Report
SMART	Special Monitoring of Applied Response Technologies (monitoring protocol)
SMEEC	State Maritime Environmental Emergency Coordinator
SMP	Scientific Monitoring Plan
SOC	Security Operations Centre
SOP	Standard Operating Procedure

Acronym/ Abbreviation	Meaning
SOPEP	Shipboard Oil Pollution Emergency Plan
SR	Shoreside Recovery OR Sediment Reworking and Surf Washing
SSDI	Subsea Dispersant Injection
State	Western Australia
State Waters	The marine environment within three nautical miles of the mainland of Western Australia or its islands
T	Tonne
TB	Tracking Buoy Deployment
Titleholder	*See* Petroleum Titleholder
TM	Trajectory Modelling
TPH	Total Petroleum Hydrocarbon
TRG	Tactical Response Guide
TRP	Tactical Response Plan
TS	Transfer and Storage (of oily liquids)
VO	Visual Observation
VOC	Volatile Organic Compound; organic chemical compound that has high enough vapour pressures under normal conditions to vaporise and enter the atmosphere
WA	Western Australia
WAOWRP	Western Australian Oiled Wildlife Response Plan
Wff	Washing, Flushing, and Flooding
WMP	Waste Management Plan
Woodside	Woodside Energy Limited

11 References

The following documentation is either directly referenced in this document or is a recommended source of background information.

Table 11-1: References

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Appendix A External Notification Thresholds and Reporting Responsibilities

Table A1: External Notification Thresholds and Reporting Responsibilities

Agency or Authority	Type of Notification / Timing	Legislation / Guidance	Reporting Requirements	Responsible Person / Group	Reporting and Contact Information
Operating Partners (Wheatstone)					
Woodside Energy Limited (Woodside)	**Immediately upon detection, CAPL will notify Woodside via the Woodside Communications Centre**	Julimar Operations Environment Plan	All spills from, or suspected to be from, Brunello and/or Julimar fields and/or hydrocarbon system Relay key incident details, including: • time of incident • controlled, or continuing to spill • weather, tide, and current details • apparent trajectory of the spill	Notification by Wheatstone Platform Offshore Installation Manager (OIM) or EMT IC	Woodside Communications Centre on any of: • 1300 833 333 • (08) 9348 7184 • +881 632 410 392 (satellite phone)
All Marine Spills (Commonwealth and State Waters)					
AMSA	**Immediate verbal notification** by the Vessel Master to AMSA: (02) 6230 6811 Written Marine Pollution Report (POLREP) form **within 24 hours** of the request of AMSA	*Protection of the Sea (Prevention of Pollution from Ships) Act 1983* (Commonwealth) *Navigation Act 2012* (Commonwealth) • Marine Order 91 (Marine pollution prevention — oil) 2014 • Marine Order 93 (Marine pollution prevention — noxious liquid substances) 2014 NATPLAN	All discharges/spills or probable discharges/spills to the marine environment of oil or oily mixtures or noxious liquid substances in the marine environment originating from a vessel/ship. This includes platform supply vessels and accommodation vessels. All spills where NATPLAN equipment is used in a response. Note: The above reporting does not apply to spills/discharges originating from the Wheatstone platform.	Vessel Master or CAPL representative to AMSA	If the ship is at sea, reports are to be made without delay to AMSA: • (02) 6230 6811 or 1800 641 792 • rccaus@amsa.gov.au • Fax: (02) 6230 6868 • AMSA POLREP: https://amsa-forms.nogginoca.com/public/
Commonwealth Department of the Environment and Energy (DotEE) (Soon to be Department of Industry, Science, Energy and Resources (DISER))	Written notification submitted to DotEE (email suitable) **as soon as practicable and within**: • **24 hours** of detection / observation for death or injury of listed marine fauna • 48 hours of detection / observation for unplanned impact on a matter of national environmental significance (NES) or death or injury of other (non-marine) listed species	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)	Spill has potential to cause significant impact to a matter of NES Death or injury of individual(s) from a Listed Species during the activity	Notification by EMT Liaison Officer (or delegate) *Advice on the content of this notification can be provided by the Environment Unit Lead (EUL)*	compliance@environment.gov.au (02) 6274 1372 or 1800 110 395
Commonwealth Waters					
NOPSEMA	Initial verbal to NOPSEMA, **within 2 hours** after CAPL becomes aware on incident. Written report as soon as possible, **within 3 days**	*Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Commonwealth) Offshore Petroleum Greenhouse Gas Storage (Environment) Regulations 2009 (as amended 2014)	A spill associated with the activity that has caused, or has the potential to cause, moderate to significant environmental damage, such as: • a LOWC resulting in a release of hydrocarbons • a major defect (flowline or production pipeline) resulting in a release of hydrocarbons • a release of hydrocarbons from a vessel engaged in a petroleum activity into the marine environment	Initial verbal notification by OIM / Supervisor / IEMT IC Written report by EMT Liaison Officer (or delegate) *Advice on the content of this verbal and written notification can be provided by the EUL if time allows*	1300 674 472 Incident reporting requirements: • https://www.nopsema.gov.au/assets/Guidance-notes/A198752.pdf
National Offshore Petroleum Titles Administrator (NOPTA) and WA Department of Mines, Industry Regulation and Safety (DMIRS)	Written report (as above) to NOPTA and DMIRS within **7 days** of the initial report being submitted to NOPSEMA	*Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Commonwealth) Offshore Petroleum Greenhouse Gas Storage (Environment) Regulations 2009 (as amended 2014)	Regulation 26(6) requires the titleholder to give a written record of the notification to NOPSEMA, the NOPTA, and the Department of the responsible State or Northern Territory Minister as soon as practicable after the oral notification.	Written report (as above) by EMT Liaison Officer (or delegate) *Advice on the content of this notification can be provided by the EUL*	Provide same written report as provided to NOPSEMA Reporting requirements: • https://www.nopsema.gov.au/assets/Guidance-notes/A198752.pdf

Agency or Authority	Type of Notification / Timing	Legislation / Guidance	Reporting Requirements	Responsible Person / Group	Reporting and Contact Information
State Waters					
WA DoT (WA MEER unit)	**Immediate verbal notification** to the MEER duty officer Follow up with written POLREP, **as soon as practicable** Written situation report (SITREP) submitted within **24 hours** of being directed by DoT	State Hazard Plan – MEE (Ref. 3) As per State legislation (i.e. *Pollution of Waters by Oil and Noxious Substances Act 1987*)	Spill to State Waters (including ports and inland waters), or with the potential to enter State Waters	Immediate notification and POLREP by Vessel Master (for vessel spills) or EMT Liaison Officer (or delegate) for all other spills Written SITREP submitted by EMT Liaison Officer (or delegate) *Advice on the content of this notification can be provided by the EUL*	DoT MEER Unit 24-hour number: (08) 9480 9924 • DoT POLREP: http://www.transport.wa.gov.au/mediaFiles/marine/MAC-F-PollutionReport.pdf • DoT SITREP: http://www.transport.wa.gov.au/mediaFiles/marine/MAC-F-SituationReport.pdf
DMIRS	Initial verbal notification within **2 hours** Written environmental incident report within **3 days**	Petroleum and Geothermal Energy Resources (Environment) Regulations 2012 Petroleum (Submerged Lands) (Environment) Regulations 2012 Petroleum Pipelines (Environment) Regulations 2012	A spill associated with the activity that has caused, or has the potential to cause, moderate to significant environmental damage, such as: • a LOWC resulting in a release of hydrocarbons • a major pipeline defect in the marine environment resulting in a release of hydrocarbons; and, • a release of hydrocarbons as a result of a vessel collision in the marine environment.	Notification by EMT Liaison Officer (or delegate) *Advice on the content of this notification can be provided by the EUL*	• (08) 9222 3727 • Initial notifications for reportable incidents will be made by email to petroleum.environment@dmirs.wa.gov.au. • Reportable Environmental Incident Report Form: http://www.dmp.wa.gov.au/Environment/Environment-reports-and-6133.aspx
Barrow Island Port Authority	Verbal notification within **4 hours**. *Note: This does not relieve the Vessel Master of their responsibility to report directly to AMSA and DoT.*	Port of Barrow Island – Port Information Manual (Ref. 4) As per State legislative requirements	An incident, near miss, or relevant event within, or likely to move into, the Port of Barrow Island boundary	Vessel Master to inform and report to Barrow Island Port Captain who reports to the Harbour Master (DoT)	Primary Barrow Island Port Captain: (08) 9184 3667 Secondary Marine Communications (08) 9184 3666
Pilbara Ports Authority (covers Dampier, Ashburton, and Port Hedland ports)	Verbal notification as soon practicable Written Report within **24 hours** *Note: This does not relieve the Vessel Master of their responsibility to report directly to AMSA and DoT.*	Port Facility User's Handbook – Port of Dampier (Ref. 5) Or Port Hedland Port Handbook, 2018 (Ref. 6) As per State legislative requirements	Any emergency, accident, hazardous situation, near miss, and/or any marine and/or land pollution incident that a port facility user is aware of	Notification by Vessel Master (for vessel spills) or EMT Liaison Officer (or delegate) for all other spills *Advice on the content of this notification can be provided by the EUL*	(08) 9159 6556 https://www.pilbaraports.com.au/Home/Safety-and-security/Hazard-and-incident-reporting
Exmouth Boat Harbour	**Immediate** to Exmouth Harbour Marine Officer (DoT) as soon as practicable Follow up with written POLREP, **as soon as practicable** Written SITREP submitted within **24 hours** of being directed by DoT. *Note: This does not relieve the Vessel Master of their responsibility to report directly to AMSA and DoT*	Exmouth Boat Harbour Code of Conduct (Ref. 7) (refer to DoT requirements)	Spill from a vessel or unknown source	Immediate notification and POLREP by Vessel Master (for vessel spills) or EMT Liaison Officer (or delegate) for all other spills Written SITREP submitted by EMT Liaison Officer (or delegate) *Advice on the content of this notification can be provided by the EUL*	Exmouth Boat Harbour Maritime Office: (08) 9949 4284
Department of Water and Environment Regulation (WA) (DWER)	Initial preliminary verbal or electronic notification of the discharge **as soon as practicable** Written notification of the incident to the chief executive officer of the DWER, copied to the local DWER Industry Regulation Office, **as soon as practicable**	*Environmental Protection Act 1986* (WA) (Section 72) Environmental Protection (Unauthorised Discharge) Regulations 2004	Environmental Protection Act: Spill or discharge of hydrocarbon to the environment that has caused, or is likely to cause pollution, or material or serious environmental harm (which for the purposes of this Plan, was assessed for this activity to include Level 2 to 3 spills) Environmental Protection (Unauthorised Discharge) Regulations: Unauthorised discharge (where there is potential for significant impact or public interest) to environment of Schedule 1 material	Notification by EMT Liaison Officer (or delegate) *Advice on the content of this notification can be provided by the EUL*	24-hour pollution watch hotline 1300 784 782 Reporting requirements: http://www.der.wa.gov.au/images/documents/your-environment/pollution/spill-reporting_guide-s72.pdf DWER Officer: Carmen.Standring@DWER.wa.gov.au DWER Hazmat Branch
DBCA	Verbal notification **as soon as practicable**	*Biodiversity Conservation Act 2016* (WA) WAOWRP (Ref. 19)	Notify if spill has the potential to impact or has impacted wildlife in State Waters (to activate the Oiled Wildlife Advisor)	Notification by EMT Liaison Officer (or delegate) *Advice on the content of this notification can be provided by the EUL*	DBCA Barrow Island Reserves Officers: • (08) 9182 5095 • Sro.bwi@dbca.wa.gov.au DBCA State Duty Officer: • (08) 9219 9108
Parks Australia	Verbal notification as soon as practicable	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)	All actual or impending spills that occur within a marine park or are likely to impact on an Australian marine park	Notification by EMT Liaison Officer (or delegate)	24-hour Marine Compliance Duty Officer: 0419 293 465.

Agency or Authority	Type of Notification / Timing	Legislation / Guidance	Reporting Requirements	Responsible Person / Group	Reporting and Contact Information
(Director of National Parks)				*Advice on the content of this notification can be provided by the EUL*	No forms, but provide this information: • Titleholder's details • Time and location of the incident (including name of marine park likely to be affected) • Proposed response arrangements as per the OPEP; confirmation of providing access to relevant monitoring and evaluation reports when available • Details of the relevant contact person in the IMT.
Australian Fisheries Management Authority	Verbal notification by phone within 8 hours		Fisheries within the environment that may be affected (EMBA) Consider a courtesy call if not in exposure zone	Notification by EMT Liaison Officer (or delegate) *Advice on the content of this notification can be provided by the EUL*	1300 723 621 or (02) 6225 5555

Appendix B Implementation Tables

These implementation tables guide the ORT, IEMT, and EMT on tasks and responsibilities that should be considered when implementing each response strategy. The IC is ultimately responsible for implementing the response and therefore, depending on the circumstances of the spill, they may determine that some tasks be varied, should not be undertaken, or should be reassigned.

Table B1: MES Implementation Guide

Responsibility		Task	Consideration	Complete
Tracking buoy (if selected); *most suitable for Level 2–3 spills*				
Initial Actions	ORT / IEMT	Direct personnel to deploy buoy from the facility or vessel as close as possible to the leading edge of the spill (personnel and vessel safety is priority)	ABU Oil Spill Coordinator should coordinate tracking buoy deployment Note and report the serial number of the deployed tracking buoy Tracking buoy login details and deployment guidelines are available in Oil Spill Tracking Buoy Instructions (Appendix E, Ref. 62)	☐
	ORT / IEMT	Inform EMT that buoy has been deployed and provide EMT with current weather conditions	Note tracking buoy deployment details in incident log	☐
	Situation Unit Leader	Verify deployment of tracking buoy using tracking buoy instructions	Tracking buoy login details and deployment guidelines are available in Oil Spill Tracking Buoy Instructions (Appendix E, Ref. 62)	☐
Ongoing Actions	Situation Unit Leader	Use tracking buoy data to maintain Common Operating Picture	Tracking buoy data is tracked online and fed into spill trajectory models and the Common Operating Picture	☐
	Situation Unit Leader	Use the IAP to guide the OIM regarding any additional tracking buoys deployments		☐
Trajectory and fate/weathering modelling (if selected); *most suitable for Level 2–3 spills*				
Initial Actions	Situation Unit Leader / Environment Unit Leader	Contact CAPL Geographic Information Systems (GIS) Team to conduct in-house GeoHouse oil spill trajectory modelling		☐
	Situation Unit Leader / Environment Unit Leader	Conduct hydrocarbon distribution, fate, and weathering assessment using Automated Data Inquiry for Oil Spills (ADIOS2) using information available on oil type (see Oil Properties and Dispersion Application Applicability [Appendix E, Ref. 58])	Compare fate curves from applicable EP and ADIOS2 Refer to PEMT Environment Unit Lead EMT Checklist – Oil Spill (Appendix E, Ref. 60) for more information and links	☐
	Situation Unit Leader / Environment Unit Leader	Contact RPS Group duty manager (0408 477 196) to execute service contract and commence trajectory modelling	Surveillance activities should aim to ground-truth trajectory modelling results	☐
	Situation Unit Leader / Environment Unit Leader	Complete and send the Oil Spill Trajectory Modelling Request Form (Appendix E, Ref. 63) to RPS Group for trajectory modelling. Refer to the Activate Oil Spill Modelling Request Procedures (Appendix E, Ref. 61) for a quick reference guide for activating spill response modelling procedures with RPS Group Call RPS Group duty manager 0408 477 196 to confirm receipt of the trajectory modelling request once sent	Modelling will be undertaken within 3 hours of the request being sent to RPS Group, then every operational day during the spill response; note actions in the incident log	☐
Ongoing Actions	Situation Unit Leader / Environment Unit Leader	Request trajectory modelling be provided daily throughout the duration of the response and integrate data into the Common Operating Picture		☐
	Situation Unit Leader	Use results from monitor and evaluate activities, and/or data derived from hydrocarbon assays of the source hydrocarbon, or from other reservoirs in the region as input data (if or when available) to improve model accuracy		☐
Satellite imagery (if selected); *most suitable for Level 2–3 spills*				
Initial Actions	Situation Unit Leader	Notify AMOSC duty officer (0438 379 328) to request initiation of satellite services	Request for AMOSC support must be approved by EMT IC	☐
	Situation Unit Leader	Combine satellite data with optical imagery (aerial surveillance, vessel-based observations) to mitigate issues of angle of insolation (angle of the sun), thick cloud cover, and night	Satellite-derived data can be used to broaden aerial survey data (in terms of both spatial and temporal scale) and provide images	☐
Ongoing Actions	Situation Unit Leader	Request that satellite imagery is provided daily throughout the duration of the response and integrate this data into the Common Operating Picture		☐

Responsibility		Task	Consideration	Complete
Metocean data acquisition				
Initial Actions	Situation Unit Leader	Contact CAPL GIS Team to obtain metocean data for integration into the Common Operating Picture	Numerous datasets of metocean data are available from the Bureau of Meteorology (BOM) and APASA (Environmental Data Service, ECOP, and Coastmap) via the CAPL GIS Team CAPL also has access to real-time weather stations, which measure wave, current, and wind at various locations. BOM Chevron site: • http://ssuweb.bom.gov.au/private/login.pl • Username: chevron • Password: s2whw3xt Wheatstone metocean data: • http://rpsmetocean.com/data-access • Username: J2890.002 • Password: Wheatstone Wheatstone Platform real-time metocean data: • http://146.29.188.20/rems/site/page/standby Port of Ashburton metocean data. • https://hydrotel.pilbaraports.com.au/hydrotel/ • Username: EUL • Password: oil123spill	☐
Ongoing Actions	Situation Unit Leader	Request that metocean data is provided daily throughout the duration of the response and integrate this data into the Common Operating Picture		☐
Vessel surveillance (if selected); *most suitable for Level 1–3 spills*				
Initial Actions	ORT / IEMT	If preliminary observations are/were possible, provide the EMT with an initial report on estimated spill volumes and movement based on visual observation (if possible) such as: • Vessel Master spill volume estimates • plume delineation estimates • aerial and marine surveillance data, where available	Preliminary observations are intended to provide initial projections of spill trajectory and scale before more detailed modelling and surveillance is undertaken; these observations should be verified immediately by more detailed surveillance	☐
	ORT / IEMT/ Logistics Section Chief	Determine if any vessels are available to follow spills and help with surveillance activities	CAPL Shipping (through Logistics Section) can provide further information on standing vessel contracts and 'vessel of opportunity' options	☐
Ongoing Actions	Situation Unit Leader	If vessel surveillance is feasible, ensure surveillance data are regularly incorporated into the Common Operating Picture		☐
	IEMT Planning Section Chief	Continue to use the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to identify and quantify surface and shoreline oil during MES operations	As per Environmental Performance Standards for MES	☐
Aerial surveillance (if selected); *most suitable for Level 1–3 spills*				
Initial Actions	EMT Logistics Section Chief	Contact CAPL aircraft providers to establish support for aerial surveillance activities	CAPL Aviation (through Logistics Section) can provide further information on aircraft contracts and availability. Aerial surveillance platform (fixed wing or rotary) should: • be immediately accessible from a Pilbara-based airport • be capable of flying at 150 feet • have crew for one aircraft and space for at least one trained aerial observer	☐
	EMT Logistics Section Chief	Confirm availability of aerial surveillance platform to conduct initial surveillance flight	If aviation assets are available near the spill location, use them (where possible) to gather as much information about the spill. If aviation assets are not available at or near the spill location, the EMT is to seek available resources through existing contractual arrangements.	☐

Responsibility		Task	Consideration	Complete
			The initial surveillance flight may not have a trained aerial surveillance observer on board. Initial flights can be conducted using standard crew and initial surveillance should not be delayed waiting for trained personnel. Ensure all safety requirements are met before deployment. Obtain this data during initial surveillance, where possible: • name of observer, date, time, aircraft type, speed, and altitude of aircraft • location of slick or plume (GPS positions, if possible) • spill source • size of the spill, including approximate length and width of the slick or plume • visual appearance of the slick (e.g. colour) • edge description (clear or blurred) • general description (windrows, patches etc.) • wildlife, habitat, or other sensitive receptors observed • basic metocean conditions (e.g. sea state, wind, current) • photographic/video images	
	Operations Section Chief	Once initial flight is complete, EMT to determine if additional flights are required		☐
	Operations Section Chief Logistics Section Chief	In addition to arranging the initial flight, mobilise aircraft and trained observers to the spill location to undertake surveillance activities (which can be cancelled if the initial flight determines no additional surveillance is required)	Trained observers should be familiar with the Bonn Agreement Aerial Operations Handbook (Part III) (Ref. 35). An Aerial Surveillance Observation Log is provided in Aerial Surveillance Grab Bag at Barrow Island and Wheatstone LNG CAPL has trained aerial observers at its Barrow Island, Onslow, and Perth locations—see the ABU Oil Spill Response Dashboard (Appendix E, Ref. 64) If needed, trained aerial observers are available from AMOSC (24 hours mobilisation time), AMSA National Response Team (via the NATPLAN), through mutual aid arrangements with other nearby operators with trained staff (e.g. Shell, Woodside), and also through OSRL (international deployment required)	☐
	Situation Unit Lead	Complete Flight Tasking information using Assignment List attachment form (ICS-204a)		☐
	Operations Section Chief	Relay all records to EMT when aircraft returns from its observation flight	Visual observations from aircraft are inherently subjective due to the effect of the angle of the sun on the surface of the ocean, cloud cover, and amount of daylight Where possible, consider sending a verbal report of relevant information via radio/telephone while en route if the aircraft has a long transit from the spill location to base	☐
Ongoing Actions	Operations Section Chief	Develop a flight schedule for ongoing aerial surveillance	Frequency of flights should consider the information needs of the EMT to help maintain the Common Operating Picture and determine ongoing response operations	☐
	IEMT Planning Section Chief	Continue to use the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to identify and quantify surface and shoreline oil during MES operations	As per Environmental Performance Standards for MES	☐
Operational and Scientific Monitoring Plan (if required); *required for Level 2–3 spills*				
Initial Actions	Environment Unit Lead	Activate the OSMP. Start with the ABU OSMP Quick Reference Guide (Appendix E, Ref. 59) and identify relevant components to initiate, and then consult Technical Services (Environment) team as subject matter experts. Discuss with Operations Section Chief and confirm that work assignments are included in the ICS-234 (Work Assignment Matrix), and subsequent ICS-215s (Operational Planning Worksheet)	Use the 'First 48 hours Guide/Checklist' within the ABU OSMP Quick Reference Guide (Appendix E, Ref. 59) as a starting point for OSMP implementation	☐
NEBA (if required); *required for Level 2–3 spills*				
Initial Actions	Environment Unit Lead	Review strategic NEBA and using MES and OSMP data to confirm sensitive environmental and social receptors and protection prioritisation, commence operational NEBA using the standard template. Consult with Operations Section Chief to understand timing requirements for when the operational NEBA will be required (e.g. before the Preparation for Tactics Meeting, Tactics Meeting)	Template is available from the ABU Oil Spill SharePoint site (Appendix E)	☐

Table B2: AND Implementation Guide

Responsibility		Task	Consideration	Complete
Initial Actions	Situation Unit Leader	Identify areas for AND activities based on aerial or marine surveillance reports	Information obtained through MES activities (Section 5.3) can be used to identify priority areas	☐
	Logistics Section Chief	Identify suitable vessels to conduct AND activities. Check for vessels working near spill site in the first instance. Otherwise select vessels based on suitability for the task (e.g. vessels with a firefighting system)	Note: Vessel should be fitted with a gas detection unit. AND activities are conducted at the discretion of the Vessel Master due to safety/ignition risks of driving a vessel through a volatile hydrocarbon	☐
	Operations Section Chief	Direct the ORT to conduct AND activities	Deploy vessel/s to execute AND at priority or target areas using: • propeller wash • high-pressure water spray	☐
Ongoing Actions	Situation Unit Leader	Request daily metocean data during the response to determine if conditions remain favourable for AND		☐
	ORT	Record observations from the response and relay back to EMT		☐
	Situation Unit Leader	Use data received from MES tactics, field reports, and photos to evaluate effectiveness of AND, and direct ORT as required		☐
	Document Unit Lead	Record all relevant data associated with this response option	Examples include equipment mobilised, times, locations, job hazard analyses (JHAs) used	☐

Table B3: Surface Dispersant Application Implementation Guide

Responsibility		Task	Consideration	Complete
Before Application				
Initial Actions	Environment Unit Leader	Confirm operational NEBA supports surface chemical dispersant application	Confirm oil properties support using surface dispersant Confirm that response objectives support dispersant application (i.e. to prevent shoreline impact)	☐
	Operations Section Chief	Investigate if window of opportunity for dispersant application is feasible (use indicative transit times in Appendix D)	Obtain estimates on transit times to spill location from oil spill response agencies to help determine if window of opportunity is viable given transit times to the spill location	☐
	Operations Section Chief	Obtain real-time metocean information to determine that conditions are suitable for surface dispersant application	Refer to: • Section 5.3 for MetOcean data access information • Refer to Table 7-7 for specific criteria (environmental, operational, oil properties) applicable to dispersant application	☐
	Logistics Section Chief	Mobilise Tier 1 Oil Spill Dispersant Effectiveness Field Test Kit from the closest storage location to the vessel carrying out the test spray	Kits are kept on Barrow Island (with the Barrow Island Port Captain) and at Wheatstone LNG Plant (with the Marine Superintendent) The kits are based on the National Plan Oil Spill Dispersant Effectiveness Field Test Kit. Usage instructions are within the kits and also available from: https://www.amsa.gov.au/sites/default/files/2012-06-np-gui013-oil-spill-disp-effectiveness-kit.pdf	☐
	Planning Section Chief / Incident Commander	Ensure the necessary approvals are in place depending on the location of dispersant use	State Waters: Before applying any dispersant in State Waters, IC (or delegate) must arrange for approval of dispersant use from DoT (i.e. State Maritime Environmental Emergency Coordinator) using the AMSA Protocol for Obtaining Approval for the Application of Oil Spill Control Agents to Oil at Sea or on Shorelines (Ref. 24) Commonwealth Waters: NOPSEMA provides prior approval of dispersant use upon acceptance of the EP/OPEP that identifies dispersants as an appropriate response option. Consult with the EUL for EP/OPEP details. AMSA may also need to be consulted to advise on spills that occur in Commonwealth Waters if the vessel is not conducting a petroleum activity	☐
Vessel Application				
Initial Tasks	Operations Section Chief	Determine the resources required (including vessel(s), people and equipment) for dispersant application and provide ICS-213 RR form to the Logistics Section Chief	Refer to CAPL Oil Spill Response Dashboard (Appendix E, Ref. 64)	☐
	Logistics Section Chief	Identify suitable vessels to conduct dispersant spraying activities **If surface dispersant application is selected as a response option, identification of vessel availability must be carried out within 12 hours of the EMT activation to meet Environmental Performance Standards**	Check for vessels working near spill site in the first instance. Otherwise select vessels based on suitability for the task **A minimum of one vessel must be mobilised within 24 hours (subject to Barrow Island quarantine requirements if entering the Port of BWI) for equipment and test kit loading to meet Environmental Performance Standards**	☐
	Logistics Section Chief	If required for a first-strike response, mobilise CAPL dispersant and application equipment to the selected vessel(s)/location	CAPL maintains a small quantity of dispersant (5 m^3 of Slickgone EW) and vessel dispersant application systems (AFEDO spray system) at the: • Wheatstone LNG Plant • Karratha Distribution Centre	☐
	Logistics Section Chief	Make arrangements for CAPL-trained personnel (who are available to assist with dispersant application as part of a first-strike response) to be mobilised to the vessel	Refer to CAPL Oil Spill Response Dashboard (Appendix E, Ref. 64)	☐
	Planning Section Chief / Incident Commander	If dispersant is deemed appropriate for a long-term response, and/or is beyond the capacity of CAPL resources, liaise with third-party support agencies (OSRL, AMOSC, and/or AMSA) for assistance in ongoing dispersant application	Refer to Table 3-2 for external oil spill response agency support services and activation	☐
	Logistics Section Chief	Confirm mobilisation of basic field-testing equipment to vessel and arrange for tests to be conducted and results communicated **before applying any dispersant**		☐
	ORT	Conduct test spray and carry out basic Tier 1 dispersant effectiveness monitoring (including shake test and visual monitoring) and report results to EMT	Communicate results directly to EMT. Record all observations and take photos and videos if possible. Signs of effectiveness include:	☐

Responsibility		Task	Consideration	Complete
			• coffee-colour in underlying waters • loss of distinct ‘edge’ of slick • change in colour of oil • subsurface oil	
	Environment Unit Lead	Assess dispersant efficacy test results from basic field test and determine whether ongoing dispersant application is suitable		☐
	Operations Section Chief	Using real-time or most recent visual surveillance observation data, identify appropriate locations for dispersant activities to be carried out and develop operational zones for vessel dispersant operations	Focus on applying dispersant to areas of slick that threaten priority receptors and are of a sufficient thickness whereby chemical dispersants will be effective	☐
	Operations Section Chief / Environment Unit Lead	Determine nominal application rates of dispersant based on estimated spill volumes, recommended application rates, and efficacy monitoring results	Consult with third-party support agencies for guidance if conducting a first-strike response Third-party support agencies will assume this responsibility when ongoing dispersant application is required	☐
	ORT	Carry out vessel dispersant application using trained personnel or third-party support agencies, as instructed by the EMT	Record relevant data (e.g. equipment mobilised, times, locations, JHAs, type of dispersant used, concentration) and relay back to EMT	☐
	Logistics Section Chief	Arrange for additional aerial surveillance to help direct, monitor, and observe dispersant application	Aerial surveillance operations (if available) are to provide Vessel Master with GPS coordinates for dispersant application within operational zones	☐
Ongoing Tasks	Environment Unit Lead	Continue to monitor and assess the effectiveness of surface dispersant application	Dispersant efficacy testing is an Operational Monitoring component under the OSMP (Ref. 8) and will be carried out by the OSMP team	☐
	Environment Unit Lead	Conduct operational NEBA during each operational period to reassess effectiveness of application rates and dispersant efficacy	Evaluate the effectiveness of the response and direct the ORT as required	☐
	Logistics Section Chief	Source additional vessels (if required) via marine contracts and arrange for deployments from a suitable location		☐
	Logistics Section Chief	Arrange for additional vessels to be resourced with equipment, personnel, and dispersant stocks before deployment		☐
	Operations Section Chief	Maintain operational zones and provide updates to Vessel Masters on most suitable locations for application		☐
Aerial Application				
Initial Actions	Logistics Section Chief	Confirm mobilisation of basic field-testing equipment to vessel and arrange for tests to be conducted and results communicated **before applying any dispersant**	Unless directed by the IC, dispersant efficacy basic field testing is required before aerial dispersant is applied. The field testing will depend on proximity to shore and resource availability In lieu of basic field testing, the aircraft should carry out a test spray and conduct a visual check for effectiveness	☐
	ORT	If possible, conduct test spray and carry out basic Tier 1 dispersant effectiveness monitoring (including shake test and visual monitoring) and report results to EMT	Communicate results directly to EMT. Record all observations and take photos and videos if possible. Signs of effectiveness include: • coffee-colour in underlying waters • loss of distinct ‘edge’ of slick • change in colour of oil • subsurface oil	☐
	Environment Unit Lead	Assess dispersant efficacy test results from basic field test and determine whether ongoing dispersant application is suitable		☐
	Operations Section Chief	Using real-time or most recent visual surveillance observation data, identify appropriate locations for dispersant activities to be carried out and develop operational zones for fixed wing aerial dispersant operations	Focus on applying dispersant to areas of slick that threaten priority receptors and are of a sufficient thickness whereby chemical dispersants will be effective	☐
	Logistics Section Chief	Identify the location of a suitable air operations ground base that aircraft, personnel, and equipment can be mobilised into	Consider location of the spill, proximity to coast, and proximity to main roads and services	☐
	Logistics Section Chief / Operations Section Chief	Mobilise initial resources for aerial application	Ensure all equipment mobilisation is coordinated, noting need for AMOSC/AMSA equipment in support of other response strategies	☐

Responsibility		Task	Consideration	Complete
		After initial AMOSC notifications are complete, contact AMOSC duty officer and confirm requirements for these resources: • access to and mobilisation of required AMOSC dispersant stocks and associated equipment (AMOSC may arrange this through their contracted transport provider) • activation of the FWADC from AMSA (AMOSC will activate this on behalf of CAPL) • trained spill responders to support operations (AMOSC staff and Core Group)		
	Logistics Section Chief	Request AMSA assistance to mobilise air attack supervisors, aerial observers, and airbase managers into the selected air operations ground base	CAPL may be required to provide logistical support	☐
	Operations Section Chief	Finalise the Air Operations Plan in consultation with AMSA	Ensure the flight schedule in the Air Operations Plan considers requirements for other activities such as aerial surveillance sorties	☐
	Operations Section Chief	Using real-time or most recent visual surveillance observation data, identify appropriate locations for dispersant activities to be carried out and develop operational zones for aerial dispersant operations	Focus on applying dispersant to areas of slick that threaten priority receptors and are of a sufficient thickness whereby chemical dispersants will be effective	☐
	Operations Section Chief	Aerial surveillance operations: Provide pilots with GPS coordinates for dispersant application within operational zones (if available)		☐
Ongoing Tasks	Environment Unit Lead	Continue to monitor and assess effectiveness of surface dispersant application	Dispersant efficacy testing is an Operational Monitoring component under the OSMP (Ref. 8) and will be carried out by the OSMP team	☐
	Environment Unit Lead	Conduct operational NEBA during each operational period to reassess effectiveness of application rates and dispersant efficacy	Evaluate the effectiveness of the response and direct the ORT as required	☐
	Logistics Section Chief	If required, coordinate additional dispersant stocks and equipment through OSRL and arrange: • permit for low-level flying • accommodation / transport for personnel • immigration clearance for personnel		☐

Table B4: Containment and Recovery Implementation Guide

Responsibility		Task	Consideration	Complete
On-water Containment and Recovery				
Initial Actions	Environment Unit Leader	Confirm operational NEBA supports on-water containment and recovery	• Confirm oil properties support using containment and recovery • Confirm that the volatility of the product will not create a health and safety risk • Ensure the hydrocarbon characteristics, such as pourpoint and viscosity, make the product amenable to containment and recovery	☐
	Operations Section Chief	Confirm conditions are suitable for contain and recover activities	Refer to Table 7-10	☐
	Operations Section Chief	Identify areas for containment and recovery operations based on marine and aerial surveillance reports and other response strategies being implemented simultaneously	Marine and aerial surveillance reports: obtained via MES activities; see Section 5	☐
	Logistics Section Chief	Identify potential vessels available for deploying and towing the boom, and for collecting oily waste **If containment and recovery is selected as a response option, identification of vessel availability must be carried out within 12 hours of the EMT activation to meet Environmental Performance Standards**	EMT should prioritise vessels with a crane and large storage capacities for containment and recovery operations	☐
	Operations Section Chief	For a first-strike or CAPL-led response, determine the resources required (including trained responders and containment and recovery equipment) for containment and recovery and provide the ICS-213 RR form to the Logistics Section Chief	Refer to: • CAPL Oil Spill Response Dashboard (Appendix E, Ref. 64) • CAPL ABU Oil Spill Equipment Register (Ref. 11)	☐
	Logistics Section Chief	Arrange for suitable vessels to travel to the selected mobilisation port for embarking trained personnel and equipment	The Port of Dampier will likely be the port selected Check with ABU Shipping regarding the possibility of using the Wheatstone or Gorgon tugs (Svitzer)	☐
	Logistics Section Chief	Mobilise CAPL containment and recovery equipment to vessel mobilisation points		☐
	Environment Unit Lead	Develop Waste Management Plan for containment and recovery operations	• Refer to IAP Sub Plan: Oil Spill Response Waste Management Plan Template (contained within the Waste Management Guidance Note [Ref. 13]) • Consider how hydrocarbon properties will influence waste volumes. As a worst case, plan for a 1:10 oil-in-water recovery rate. The total rate of recovery will depend on the number of vessels and skimmers used and the environmental conditions	☐
	Logistics Section Chief	Activate the Waste Management Contractor and/or vessel providers to supply adequate waste storage	Refer to Oil Spill Response: Waste Management Guidance Note (Ref. 13)	☐
	Logistics Section Chief	Establish decontamination facilities required for vessels, personnel, and oiled equipment	Refer to and use ABU Decontamination Plan Template (Ref. 10)	☐
	Planning Section Chief / Incident Commander / Logistics Section Chief	If containment and recovery is selected for a long-term response, and/or is beyond the capacity of CAPL resources, liaise with third-party support agencies (AMSA, AMOSC, and/or OSRL) for assistance in ongoing containment and recovery	• Refer to Table 3-2 for external oil spill response agency support services and activation • Use Dampier contain and recover stockpiles in the first instance (with Exmouth and Broome as secondary locations) and liaise with AMSOC/AMSA to determine if additional equipment may be required • Ensure all equipment mobilisation is coordinated noting need for AMOSC/AMSA equipment in support of other response strategies	☐
	Logistics Section Chief	Coordinate the dispatch of operationally ready (all equipment and personnel on board) vessel via the IAP		☐
	Operations Section Chief	Coordinate aerial surveillance (or initial visual) support to vessels to ensure vessels are being directed to priority locations for contain and recover activities within operational zones	Focus on contain and recover activities to areas of slick that threaten priority receptors and are of a sufficient thickness whereby contain and recover activities will be effective	☐
	Operations Section Chief	Maintain operational zones and provide updates to Vessel Masters on most suitable locations for contain and recover activities	Continue to utilise aerial surveillance data to inform the location of operational zones	☐

Responsibility		Task	Consideration	Complete
Ongoing Tasks	IEMT Planning Section Chief	Continue to use the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to plan, coordinate, implement, and terminate operations during containment and recovery operations	As per Environmental Performance Standards for containment and recovery	☐
	ORT	Record relevant data (e.g. equipment mobilised, times, locations, JHAs used, volume of oily waste collected) and relay to EMT		☐
	Environment Unit Lead	Conduct operational NEBA during each operational period to reassess the effectiveness of containment and recovery	Evaluate the effectiveness of the response and direct the ORT as required	☐
Decanting (if selected)				
Initial Tasks	Operations Section Chief	Confirm conditions are suitable for decanting	Determine optimum retention/settling time for hydrocarbon being recovered; refer to IPIECA-IOGP (Ref. 29) for additional guidance	☐
	Environment Unit Lead	Obtain decanting approval from AMSA (Commonwealth Waters) or DoT (State Waters)	Refer to Permission to Decant Oily Water Proforma (Appendix E, Ref.68)	☐
	Operations Section Chief	Ensure sufficient temporary storage is available for oily waste water on board the vessel		☐
Ongoing Tasks	Vessel Master/s ORT	Commence decanting operations, ensuring that any discharged water is directed into the apex of the already deployed containment boom system (with operational skimmer)		☐
	Vessel Master/s ORT	Record volumes of all water decanted	Supply this information to the relevant jurisdictional authority	☐

Table B5: Shoreline Protection Implementation Guide

*Note: The first section of this table outlines a **CAPL-led first-strike response**, if required. During a first-strike response, CAPL will maintain Control Agency responsibilities. Shoreline protection and deflection activities (and associated response options, such as waste management) planned for and/or carried out after the first IAP will likely be coordinated by DoT as the Control Agency, and the tasks carried out will be determined by DoT. Indicative tasks for this period are provided in the second part of the table; however, DoT will be in control for the ongoing response objectives, methodology, deployment locations, and resource allocation, with CAPL's assistance.*

Responsibility		Task	Consideration	Complete
These first-strike actions apply to the IEMT and ORT until the PEMT assumes control of the incident, and to a spill close to shore and/or where shoreline contact is predicted to occur within 12 hours.				
Initial Actions	IEMT Planning Section Chief	Run 2D spill modelling through GeoHouse to understand spill trajectory and likely shoreline contact locations to commence initial planning	• Consult the relevant TRGs to determine the resources required to implement the first-strike response tactics based on the location of predicted contact • Consult aerial photos and videos to gain situational awareness	☐
	IEMT Operations Section Chief	Activate the shallow-water first-strike response vessel **If shoreline protection and deflection is selected as a response option, identification of vessel availability must be carried out within 24 hours of the EMT activation to meet Environmental Performance Standards**	• Wheatstone: *TAMS Intertidal*, mobile: 0448 014 395, satellite phone: 014 7151 775 • Barrow Island: *Sabre*, mobilise via WA Oil field superintendent (refer to Contacts Directory [Ref. 12]) • Consider mobilising additional shallow-water vessels from local contractors if required	☐
	IEMT Operations Section Chief	Consider sending personnel trained in shoreline assessment to shoreline locations where contact is predicted or likely and where access is possible	Refer to CAPL Oil Spill Response Dashboard (Appendix E, Ref. 64)	☐
	IEMT Operations Section Chief	Arrange/muster trained personnel who are available to help with shoreline protection	• Based on situational awareness and applicable TRGs, determine personnel requirements for the first-strike response operations • Determine team leaders and teams based on the relevant competencies of the available responders • Refer to CAPL Oil Spill Response Dashboard (Appendix E, Ref. 64)	☐
	IEMT Logistics Section Chief	Mobilise shoreline protection equipment to required locations	• Determine the equipment requirements based on response tactics (TRGs) selected • Refer to CAPL ABU Oil Spill Equipment Register (Ref. 11) • Work with Logistics Section Chief to mobilise any resources required for equipment deployment (e.g. forklifts and cranes for unloading containers and transferring equipment onto vessels)	☐
Ongoing Tasks	IEMT Planning Section Chief	Continue to use the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to plan, coordinate, implement, and terminate operations during shoreline protection and deflection operations	• As per Environmental Performance Standards for Shoreline Protection and Deflection	☐
	IEMT Planning Section Chief	Continue to review situational data (from the field) to assess success and ongoing appropriateness of response options	• Record observations and relay back to EMT • As the incident progresses, the PEMT will provide additional information such as oil spill trajectory modelling outputs, NEBA results, Control Agency updates etc.	☐
	IEMT Planning Section Chief	Provide update on the external notifications made to date		☐
	IEMT Planning Section Chief	Record relevant data (e.g. equipment mobilised, times, locations, JHAs used)		☐
The following actions apply to the EMT if shoreline contact is predicted to occur >12 hours or has the potential to occur. Actions below are indicative only and are at the final determination of the Control Agency (DoT).				
Initial Tasks	Planning Section Chief	Check with IEMT as to which external notifications have been made	• Ensure DoT have been notified. • Refer to Section 4 for external reporting requirements	☐
	Environment Unit Lead	Conduct operational NEBA to determine if shoreline protection and deflection is likely to result in a net environmental benefit using information from shoreline assessments and any TRPs for the area		☐
	Planning Section Chief Environment Unit Lead	If operational NEBA indicates that there is an overall environmental benefit, develop a Shoreline Protection Plan (IAP Sub-Plan) for each deployment area that does not have an existing TRG already developed	The Shoreline Protection Plan may include (but is not limited to): • priority nearshore and shoreline areas for protection (liaise with DoT for direction on locations) • locations to deploy protection and deflection equipment • permits required (if applicable) • protection and deflection tactics to be used for each location	☐

Responsibility		Task	Consideration	Complete
			• list of resources (personnel and equipment) required • logistical arrangements (e.g. staging areas, accommodation, personnel transport) • timeframes to undertake deployment • access locations from land or sea • frequency of equipment inspections and maintenance (noting tidal cycles) • waste management information, including logistical information on temporary storage areas, segregation, decontamination zones, and disposal routes • no access and demarcation zones for vehicle and personnel movement considering sensitive vegetation, bird nesting/roosting areas, and turtle nesting habitat (use existing roads and tracks first)	
	Operations Section Chief	Identify personnel resources for shoreline protection activities based on nominated deployment locations	Refer to CAPL Oil Spill Response Dashboard (Appendix E, Ref. 64)	☐
	Logistics Section Chief	Mobilise shoreline protection equipment to required locations Work with Supply Chain Management to mobilise any resources required for equipment deployment (e.g. forklifts and cranes for unloading containers and transferring equipment onto vessels)	• Determine the equipment requirements based on TRGs or Shoreline Protection Plans • Refer to CAPL ABU Oil Spill Equipment Register (Ref. 11)	☐
	Operations Section Chief	In consultation with DoT, identify vessels with relevant capabilities (e.g. shallow draught) for equipment deployment	Consult with ABU Marine for existing CAPL-contracted vessels and operators	☐
	Operations Section Chief	Arrange for third-party support if the nature and scale of the spill requires additional shoreline protection and deflection resources		☐
	Operations Section Chief ORT	If shoreline assessment, passive recovery, and/or non-oiled debris removal has been selected as a tactic, ensure deployment activities prioritise their implementation prior to hydrocarbon contact		☐
Ongoing Tasks	ORT	Conduct daily inspection and maintenance of boom arrays		☐
	Environment Unit Lead	Conduct operational NEBA during each operational period to reassess the effectiveness of shoreline protection and deflection	Evaluate the effectiveness of the response and direct the ORT as required	☐
	Operations Section Chief	Undertake the relevant waste management activities detailed in Section 7.8 of this OPEP		☐
	Operations Section Chief	Establish decontamination facilities required for vessels, personnel, and oiled equipment using the Decontamination Plan Template (Ref. 10)		☐
	Environment Unit Lead	Continue to collect and provide spill trajectory modelling, other operational monitoring data and existing sensitivity information/mapping to DoT for confirmation of priority protection areas and ongoing operational NEBAs		☐

Table B6: Shoreline Clean-up Implementation Guide

*Note: The first section of this table represents a **CAPL-led first-strike response**, if required for shoreline clean-up; these tasks will likely be limited to shoreline assessment and pre-emptive cleaning. During a first-strike response, CAPL will maintain Control Agency responsibilities. Shoreline clean-up activities for and/or carried out after the first IAP will likely be coordinated by DoT as the Control Agency, and the tasks carried out will be determined by DoT. Indicative tasks for this period are provides in the second part of the table; however, DoT will control for the ongoing response objectives, methodology, deployment locations, and resource allocation, with CAPL's assistance.*

Responsibility		Task	Consideration	Complete
These first-strike actions apply to the IEMT and ORT until the PEMT assumes control of the incident.				
Initial Actions	IEMT Operations Section Chief	Liaise with the Operational Monitoring Team to determine where to deploy OSA-trained personnel to undertake shoreline assessment, as per OSMP Operational Monitoring Component 5: Rapid (oiled) Shoreline Assessment	• Refer to CAPL Oil Spill Response Dashboard (Appendix E, Ref. 64) • Consider dividing shorelines into manageable segments/zones to provide a systematic and uniform framework for documenting, planning, assessing, and response throughout shoreline clean-up operations • If possible, aerial surveys may help cover larger areas in shorter timeframes	☐
	IEMT Operations Section Chief	Identify and prepare to mobilise the equipment and provisions to support shoreline clean-up in appropriate areas		☐
	IEMT Operations Section Chief ORT	If shoreline assessment identifies a high volume of non-oiled debris on potentially impacted beaches, and an operational NEBA supports the tactic, carry out pre-emptive beach cleaning to reduce potential oiled debris volumes	Consider spring high tide ranges when moving debris to higher ground	☐
Ongoing Tasks	IEMT Planning Section Chief	Continue to use the Upstream and Gas Oil Spill Response Planning Guidance: Appendix B: Response Tactics Guide (Ref. 28) to plan, coordinate, implement, and terminate operations during shoreline clean-up operations	As per Environmental Performance Standards for shoreline clean-up	☐
	IEMT Planning Section Chief	Record relevant data (e.g. equipment mobilised, times, locations, JHAs used)		☐
The following actions are indicative only and are at the final determination of the Control Agency (DoT)				
Initial Tasks	Environment Unit Lead	Using the results of OSMP Operational Monitoring Component 5: Rapid (oiled) Shoreline Assessment, conduct operational NEBA to determine if shoreline clean-up is likely to result in a net environmental benefit and identify the applicable clean-up tactics and methods	• The condition of affected shorelines will change constantly. Report results of shoreline surveys as quickly as possible to the IMT to help inform real-time decision-making • Identify potential sites of impact and high-sensitivity coastlines (refer to relevant EPs and ascertain if TRGs already exist)	☐
	Operations Section Chief Logistics Section Chief	If the operational NEBA supports non-oiled debris removal as a tactic, ensure personnel deployment activities are prioritised prior to hydrocarbon contact	Prioritise the clean-up of sensitive shorelines, in liaison with DoT and DBCA	☐
	Planning Section Chief	If operational NEBA supports natural recovery, use MES and operational monitoring data to periodically reassess the condition of the shoreline/s and modify tactics, if required		☐
	Planning Section Chief	If operational NEBA supports shoreline clean-up, prepare a Shoreline Clean-up Sub-plan for inclusion in the IAP. Use existing TRGs if they exist for the identified areas	The Shoreline Clean-up Sub-plan may include (but is not limited to): • clean-up objectives, end points, and priorities • assessment and location of staging areas and worksites (including health and safety constraints, zoning) • permits required (if applicable) • chain of command for on-site personnel • list of resources (personnel, equipment, PPE) • accommodation and transport details • waste management information, including logistical information on temporary storage areas, segregation, decontamination zones, and disposal routes • no access zones (to minimise disturbance to sensitive receptors)	☐
	Operations Section Chief	Identify resources for shoreline clean-up activities based on nominated deployment locations Trained oil spill responders should lead the clean-up response at identified locations; however, additional support personnel may be required, based on span of control to suit the nature and scale of the incident and complexity of response operations	**This task must be carried out within 12 hours of the EMT activation to meet Environmental Performance Standards** • Refer to CAPL Oil Spill Response Dashboard (Appendix E, Ref. 64) TRGs also contain information outlining shoreline clean-up resources for some protection priority areas	☐
	Logistics Section Chief	Mobilise shoreline clean-up equipment and resources to required locations	• Determine the equipment requirements based on shoreline assessment and MES reports	☐

Responsibility		Task	Consideration	Complete
		Work with SCM to mobilise any resources required for equipment deployment (e.g. forklifts and cranes for unloading containers and transferring equipment onto vessels / transport)	• Refer to ABU Oil Spill Equipment Register (Ref. 11)	
	Operations Section Chief	In consultation with DoT, identify vessels with relevant capabilities (e.g. shallow draught) for equipment deployment in areas with no vehicle access	• Consult with ABU Marine for existing CAPL-contracted vessels and operators • If applicable, identify vessel requirements for transferring personnel, equipment, and waste to / from offshore islands	☐
	Operations Section Chief	Establish site layout and zoning (hot, warm, cold) of the shoreline clean-up area	Undertake relevant waste management activities as detailed in this OPEP (Section 7.8)	☐
	Operations Section Chief	Arrange for third-party support if the nature and scale of the spill requires additional shoreline clean-up resources		☐
	Operations Section Chief	Commence implementing Shoreline Clean-up Sub-plan, particularly mobilising personnel and equipment (including vessels) in readiness for deployment and use		☐
Ongoing Tasks	Operations Section Chief	Monitor effectiveness of shoreline clean-up operations by continually implementing Operational Monitoring Component 5: Rapid (oiled) Shoreline Assessment	Where possible, maintain same composition of Operational Monitoring Component 5: Rapid (oiled) Shoreline Assessment Teams. If the same personnel are able to recommend clean-up techniques and then monitor their implementation, they will be better placed to adapt their recommendations as the clean-up progresses and judge when the agreed end points have been met	☐
	Operations Section Chief	Establish decontamination facilities required for vessels, personnel, and oiled equipment using the ABU Decontamination Plan Template (Ref. 10)		☐
	Environment Unit Lead	Conduct operational NEBA during each operational period to reassess the effectiveness of shoreline clean-up	Evaluate the effectiveness of the response and direct the ORT as required	☐

Appendix C Spill Response Arrangements

The following tables are used by the activity specific EPs to demonstrate that CAPL has the capability (described in the OPEP) to respond to a worst-case credible spill (described in the activity specific EPs). For each activity specific EP, CAPL has assessed the worst-case credible spill event(s) and use modelling to identify the extent of impact (e.g. average surface hydrocarbon expression per day, volume of hydrocarbon accumulated on the shoreline per week) for the duration of the spill event. The activity specific EPs then link with this Appendix to determine if CAPL has the existing capability to implement the level of response required to respond to the worst-case credible spill event(s) (Table C1 to Table C3) based on the volume of hydrocarbons that could be recovered per response technique (Table C4 to Table C9).

Table C1 outlines the spill response arrangements that CAPL has in place across the business that may be called on to assist in a CAPL-led spill response. It lists the minimum capability provided by the various third-party support agencies and provides guidance on the minimum mobilisation time for the capability to be available.

Table C1: CAPL Spill Response Arrangements

Company	Arrangement	Arrangement Description	Capability	Minimum Mobilisation Time
CAPL	NA	CAPL maintain a local capability to implement a first strike spill response within the first 48 hours of a spill event. CAPL has an Asia–Pacific Regional Response Team and World Wide Response Team, with specialists throughout Asia who can be mobilised to Perth within 24 to 48 hours for a large, complex operation. CAPL has access to: • Subsea well intervention engineers • Well engineers • Marine engineers • Drill site managers • Operations superintendents	CAPL has a large number of trained oil spill responders across its ABU Operations, including Barrow Island, Wheatstone LNG and Perth. Full and current details are contained within the CAPL Oil Spill Response Dashboard (Appendix E, Ref. 64) CAPL maintains a stockpile of nearshore and offshore oil spill response equipment at Barrow Island, Wheatstone LNG and Dampier, with full details contained within the CAPL ABU Oil Spill Equipment Register (Ref. 11) CAPL has a number of oil spill tracking buoys located at a number of locations, commensurate to the risk of the activity. CAPL has a basic field dispersant effectiveness test kit and procedure developed to be used for dispersant efficacy testing (Tier 1) CAPL has internal fate and weathering and spill modelling capabilities, including GeoHouse, a portal that provides access to immediate 2D spill trajectory modelling and ADIOS2 (Fate and weathering modelling)	6 hours (time may vary depending on type of equipment)

Wild Well Control	Contract	Wild Well Control shall provide the following services:
		• Development of a comprehensive emergency blow-out contingency plan
		• Wellsite inspections (offshore and onshore)
		• Non-well site consultation related to well control procedures
		• Engineering services including:
		  ○ Emergency Engineering work related to well control
		  ○ Non-emergency Engineering work related to well control
		• In-house and on-site training programs
		• Use of proprietary software (Kick, OLGA, ABC, etc)
			WWC shall provide equipment and personnel to perform services in relation to well control, capping or relief well operations in the event that the Company has to regain control of any field or site within its Area of Operations. Where required, Contractor shall provide equipment to remote locations.	48 hours

Trendsetter	Contract	CAPL can access expert and specialized services from Trendsetter including mobilisation of: • 2 capping stack engineers to field, and • 1 capping stack engineer to CAPL office	Trendsetter shall provide personnel to support the mobilization of OSRL capping stacks and ancillary equipment from their storage and maintenance locations to the field. In addition, Trendsetter will provide engineering support in Company offices to develop plans and procedures required in relation to capping stack and source control operations.	48 hours
Oceaneering	Contract	CAPL can access expert and specialised services from Oceaneering including mobilisation of: • 2 SFRT tool specialists to field, and • 1 tooling specialist to CAPL office	Oceaneering shall provide specialist personnel to support the mobilization, deployment and operation of the Subsea First Response Toolkit (SFRT) to Company well location, and provide in-house engineering support in Company offices.	24 Hours
OSRL	Service Level Agreement	Provides access to OSRL and Global Response Network (GRN) resources located in Singapore, Bahrain Fort Lauderdale and Southampton, including aircraft for aerial dispersant application.	OSRL Equipment List (Available online from https://www.oilspillresponse.com/readiness-dashboard/)	48 Hours

Company	Arrangement	Arrangement Description	Capability	Minimum Mobilisation Time
OSRL	Supplementary Agreement in respect to Capping Devices & Toolkits	Provides access to the Subsea Well Intervention System (SWIS) equipment, including capping stack and ancillary equipment, the Subsea Incident Response Tool Kit (SIRT) and the Dispersant Delivery System (DDS). Note: The SWIS / Capping Stack can be implemented within 18 days assuming mobilisation from Singapore	Refer OSRL Equipment List (Available online from https://www.oilspillresponse.com/readiness-dashboard/)	48 Hours
OSRL	Supplementary Agreement in respect of the Global Strategic Dispersant Stockpile between Oil Spill Response (Dispersants) Limited and Chevron Australia Holdings	Provides CAPL access to 100% of OSRL's global dispersant stockpile of >5000 m3.	5000 m3 Dispersant	48 Hours
OSRL	Supplementary Agreement in respect of Offset Installation Equipment' between Oil Spill Response (Capping) Limited and Chevron Response Company Limited	Provides CAPL access to the Offset Installation Equipment located in Italy	Offset Installation Equipment	48 Hours
Australian Petroleum Production and Exploration Association (APPEA)	Memorandum of Understanding	A Memorandum of Understanding for mutual assistance is in place among APPEA member signatories to facilitate the transfer of drilling units and well site services between titleholders in Australian and Timor Leste administered waters in the event of emergency conditions that require the drilling of a single or multiple relief wells.	All parties agree to use reasonable endeavours to assist in providing drilling units, technical information, transferable contractor personnel, equipment, materials, consumables and other well site services in the event of an emergency where the drilling of a relief well is required	Not specified
AMOSC	Master Service Contract	Provides access to AMOSC personnel, trajectory modelling, satellite imagery Response Core Group and equipment. Further to this, this arrangement allows CAPL to access mutual aid from other company resources (equipment and personnel) within the industry.	Refer to AMOSPlan (Ref. 27)	48 hours
AMOSC	AMOSC SFRT Contract	Membership that provides access to the Subsea First Response Toolkit (SFRT) and 500 m^3 of dispersant. Note: The SFRT can be mobilised from Jandakot by AMOSC within 12 hours. CAPL will be required to organise the additional equipment and logistics to mobilise the SFRT to the spill location (e.g. transport, vessels, ROV etc.). The SFRT can generally implemented within 8 days assuming mobilisation from Jandakot.	SFRT includes debris clearance, blowout prevention, sub sea dispersant injection system and subsea dispersant stockpile	12 hours
AMOSC	AMOSC Broome Supplementary Stockpile of spill response equipment	Membership that provides access to spill response equipment maintained by AMOSC at Broome, WA.	Range of spill response equipment including dispersant and dispersant spray systems, offshore booms, skimmers and nearshore booms	48 Hours
Vessel Providers	Contracts are held with multiple vessel operators including nearshore vessels, supply vessels, anchor handlers, PSVs and other types of vessels suitable for spill response activities. Contracts are held with IRM vessels that may be called on in case of an incident subject to availability if not on hire for Chevron at the time.	CAPL has access to several vessel providers through contract arrangements that could be used for spill response. These contracts have a call-off facility and can be activated within hours of EMT mobilisation. CAPL will monitor both vessels capable of OIE transport and deployment during drilling activities where the use of OIE could be required. CAPL has guidance developed for activating vessel contracts with the relevant vessel providers	Offshore vessels suitable to support offshore response options such as vessel dispersant and containment, recovery operations and source control. Vessel Capability is reviewed regularly as well as the availability of applicable vessels with the region.	24 Hours
Aircraft	Fixed wing: Call off contracts for ad hoc services. Rotary Wing: Babcock is Babcock Offshore Services Australasia	Contracts are held with fixed wing service providers for ad hoc transport to operational sites that may be utilised to support a response. Contracted to provide dedicated helicopters for offshore requirements for Chevron Australia, based on Barrow Island. This includes services in case of an incident response, where trained personnel may be mobilised to conduct aerial surveillance.	2 x AW139 Helicopters 12 pax CAPL has aerial observers grab bags located on Barrow Island for aerial surveillance personnel	2 Hours for Rotary Wing

Company	Arrangement	Arrangement Description	Capability	Minimum Mobilisation Time
		CAPL has guidance developed for activating aircraft contracts with the relevant external parties.		
Cleanaway	Waste Management and Disposal Services Agreement (MoU)	Provides CAPL with access to a dedicated waste management and disposal contractor to handle, transport, and dispose of response-generated waste for CAR response activities.	Operators provide support at CAPL operating locations providing safe handling and processing of contaminated waste material combined with ability to track/measure waste disposal, i.e. recycling, landfill/other. Capability includes equipment and personnel capable to manage the regular services supported as well as access to additional 'on-hire' equipment if required to support increased operational need.	Currently stationed at Wheatstone & BWI LNG plants with the ability provide coverage on a 24 Hours a day basis should need arise
AMSA	National Plan	The fixed wing aerial dispersant capability under the National Plan provides access to: • six primary aircraft located around Australia with the ability to operate offshore (up to 200 nautical miles from the coast), and • provision of adequately-trained personnel to support contract requirements. In addition to the six contracted aircraft, there are an additional 12 aircraft available. In the event of a significant incident, and subject to availability, these aircraft could be called upon to assist in a response. In addition to fixed wing dispersant capability, AMSA maintains nine strategic equipment stockpiles (four in WA [Fremantle, Exmouth, Dampier, and Broome]), including these resources: • aerial surveillance support • dispersants • 2 OWR kits (Fremantle, Karratha) • advisory services and personnel. AMSA also maintains a National Response team of personnel trained in oil spill response. CAPL can access both these personnel and the equipment from the National Plan equipment stockpiles through the AMOSC contract.	Access to 6 rapid response FWADC and an additional 12 FWADC Access to National Response Team and National Plan Equipment Stockpile (through AMOSC)	4 Hours
Western Australian Department of Transport (DoT)	NA - DoT is the control agency for incidents within state waters	DoT is the control agency for oil spill response within WA state waters, this includes where the incident originated in state waters, or where a spill has extended into state waters DoT will assume control of the activities within the 3 mile nautical limit. In accordance with OPIGN guidance, the petroleum titleholder (PT) will provide a support team to the DoT Incident Management Team. Liaison officers from DoT would be embedded into the PT incident management team. Equipment for near shore and shoreline response is owned and maintained by DoT in a number of locations along the WA coastline. Additional resources including equipment and personnel will be sourced from, or in conjunction with the petroleum titleholder. Offshore containment and recovery equipment may be initiated via the capability of National Plan (AMSA) arrangements and contracts held by the PT.	DoT manage equipment stockpiles to manage shoreline assessment and response at the following locations • Fremantle • Albany • Karratha	2 Hours
RPS Group	Contract	CAPL has an agreement in place with RPS Group to allow rapid marine hydrocarbon spill modelling capability to be activated at any time during activities, for Level 2–3 spills. CAPL has guidance developed outlining the process for activating this contracted arrangement AMOSC can also run modelling on behalf of CAPL, if required, as part of contracting arrangements with RPS.	OSTM Modelling services	3 hours
Toll	Contract	Provides warehousing, logistics and marine support for mobilising equipment to response locations throughout the state. Manages material preparation for movements on behalf of Chevron, including managing the supply bases supporting operations in various locations. Can increase support by provision of additional people and equipment, response times vary depending on skills and equipment availability. Same skilled labour can be moved from one sub-agreement to another to support unplanned events in 14 days maximum.	Warehousing, cross-dock of materials at the operations warehouses, including the provision of fuel distribution services to plant and on PPA wharf for tugs and pilot vessels. Provision of services at additional staging areas during turnarounds or other campaigns as required. Staging and Quarantine preparation of materials ready for vessel loading to Barrow Island, Offshore Rigs and Wheatstone Platform. Shore Base (including stevedoring) services at Toll Dampier Supply Base.	Labour and equipment are maintained on site every day – 12 hour shifts with on-call capability to support.

Support Agency and contractor mobilisation time commences from when the support agency or contractor is activated by the EMT.

Table C2 defines response packages for each response technique (i.e. the type and quantity of equipment and number of personnel that made a single response package or team). Critical components for each response package are identified. Critical components are defined as equipment or personnel that are limited in number and can-not be purchased or accessed readily.

Table C2: Response Technique Packages and identification of Critical Components

Response Technique	Response Package definition	Source of package definition	Minimum number of trained Oil Spill Responders per operation	Critical Components
Source Control – Well Capping	A well capping response will require (as a minimum): • SFRT / SIRT • Capping stack • Capping stack engineers • Capping stack deployment vessel	ABU Source Control Emergency Response Plan (activity specific)	CAPL trained oil spill responders - NA Personnel that can implement this response technique may be sourced from one or a combination of the following: • OSRL (Trendsetter, Oceaneering) • AMOSC (SFRT specialists) • Other contracted specialists (e.g. engineers, ROV operators)	• SFRT • Capping Stack • Capping Stack Deployment Vessel
Source Control – Relief Well	A Relief well will require (as a minimum): • MODU • Rig personnel • Well consumables (drill fluid, drill string, casing etc.)	ABU Source Control Emergency Response Plan (activity specific)		• MODU
Source Control – Sub Sea Dispersant Injection	A subsurface dispersant injection (SSDI) package requires: • SFRT/ SIRT / DDS • Dispersant • SFRT deployment vessel	ABU Source Control Emergency Response Plan (activity specific)		• SFRT / DDS • Dispersant
Monitoring Evaluation and Surveillance	MES Techniques generally include:			
	Oil spill trajectory modelling (OSTM) require: • Contract access to OSTM service provider	IPIECA (Ref. 39)	2 CAPL trained oil spill responders (trained in aerial surveillance) Additional trained responders may be sourced from one or a combination of the following: • AMOSC Core Group • OSRL Responders • State / National Response Team	• OSTM service provider
	A single aerial surveillance package generally includes: • Aerial surveillance aircraft • Aerial observer			• Aerial surveillance aircraft
	A single vessel surveillance package generally includes: • Surveillance vessel • Marine observer			• Surveillance vessel
	A single electronic surface tracker buoy package includes: • A single electronic surface tracker buoy (ESTB) • Monitoring equipment			• Electronic surface tracker buoy
	A single satellite imagery package includes: • Contract access to aerial imagery			• Satellite imagery service provider
Chemical Dispersants	A single vessel dispersant application (VDS) package is expected to comprise: • Dispersant efficacy test kit • Dispersant pumping/spray system with nozzles • 4m^3 of dispersant per day • Ancillaries and PPE sets • Vessel dispersant hand books and application guides	OSRL (Ref. 40)	2 CAPL trained oil spill responders Additional trained responders may be sourced from one or a combination of the following: • AMOSC Core Group • OSRL Responders • State / National Response Team	• Dispersant pumping/spray systems
	A single aerial dispersant application (ADS)* package is expected to comprise: • Aircraft	AMSA (Ref. 41)	NA - CAPL trained oil spill responders Additional trained responders may be sourced from one or a combination of the following:	• Fixed Wing Aircraft • Dispersant

Response Technique	Response Package definition	Source of package definition	Minimum number of trained Oil Spill Responders per operation	Critical Components
	• Air attack supervisor • Aerial observers • 12m^3 of dispersant per day		• AMSA (air attack supervisors) • AMOSC Core Group • OSRL Responders • State / National Response Team	• 1 x Air Attack Supervisor per package
Containment and Recovery	A single offshore containment package is expected to comprise: • 200m offshore boom • Hydraulic boom reel • Power pack • Air inflator • Tow bridles • Hydraulic hoses sets and reel • Buoys • Spares kits	OSRL (Ref. 42)	2 CAPL trained oil spill responders Additional trained responders may be sourced from one or a combination of the following: • AMOSC Core Group • OSRL Responders • State / National Response Team	• Vessels • 200m Offshore Booms • Powerpacks
	A single Offshore Recovery Package is expected to comprise: • Offshore skimmer • Transfer pump • Hydraulic powerpack • Ancillaries and equipment spares • Hydraulic umbilical hoses • Temporary storage barge • Sorbent boom • PPE	OSRL (Ref. 42)	2 CAPL trained oil spill responders Additional trained responders may be sourced from one or a combination of the following: • AMOSC Core Group • OSRL Responders • State / National Response Team	• Offshore Skimmers • Powerpacks
Shoreline Assessment	• Shoreline assessment grab bag • Oil spill responders trained in oiled shoreline assessment	DoT (Ref. 43)	2 CAPL trained oil spill responders (trained in oiled shoreline assessment) Additional trained responders may be sourced from one or a combination of the following: • AMOSC Core Group • OSRL Responders • State / National Response Team	• oil spill responders trained in oiled shoreline assessment
Shoreline Protection and Deflection	A single shoreline package is expected to comprise: • 250m of shoreline boom • Anchoring / deployment kit A shallow draft vessel is required for implementation of shoreline protection and deflection, which may include multiple package deployments, depending upon the location of the operations.	OSRL (Ref. 44)	2 CAPL trained oil spill responders Additional trained responders may be sourced from one or a combination of the following: • AMOSC Core Group • OSRL Responders • State / National Response Team	• 250m of shoreline boom
Shoreline Clean-up	A single shoreline package is expected to comprise: • 250m of shoreline boom • Shoreline flushing equipment including – Petrol driven water pump that utilises low pressure water, and – Perforated discharge hoses. • Anchoring / deployment kit • Shoreline skimmer (oleophilic brush or disc attachment) • Small diesel power pack • A discharge pump	OSRL (Ref. 44)	2 CAPL trained oil spill responders Additional trained responders may be sourced from one or a combination of the following: • AMOSC Core Group • OSRL Responders • State / National Response Team	• 250m of shoreline boom • Shoreline flushing equipment • Shoreline skimmer

Response Technique	Response Package definition	Source of package definition	Minimum number of trained Oil Spill Responders per operation	Critical Components
	• Temporary storage tank (1000L Collapsible) • Ancillary equipment (e.g. shovels, rakes, PPE, etc) *Based upon OSRL's equipment list there are an additional Five Pre-loaded equipment shoreline packages ready to deploy*			
Oiled Wildlife Response	A Pre-impact wildlife response equipment package includes: • Wildlife observation equipment • Wildlife hazing and deterrence equipment • Wildlife exclusion equipment • Wildlife capture and transport equipment	NA – Incident specific	1 CAPL oiled wildlife advisor to manage the overall CAPL oiled wildlife response (pre and post impact) 2 CAPL trained oil wildlife response personnel Additional trained responders may be sourced from one or a combination of the following: • AMOSC Core Group • OSRL Responders • State / National Response Team	Pre-impact wildlife response package
	Post-impact wildlife response equipment packages include: • Pre-impact wildlife response package • Wildlife cleaning and rehabilitation (e.g. OWR containers)	NA – Incident specific	1 CAPL oiled wildlife advisor to manage the overall CAPL oiled wildlife response (pre and post impact) 2 CAPL trained oil wildlife response personnel Additional trained responders may be sourced from one or a combination of the following: • AMOSC Core Group • OSRL Responders • State / National Response Team	OWR containers

** Based on AMSA aerial dispersant capability*

Table C3 lists the number of critical components of equipment (identified in Table C2) available to CAPL under existing arrangements. This was determined by reviewing equipment and personnel availability under the existing arrangements. This table only includes equipment available to CAPL through its own stockpiles or its commercial contracts. It does not include equipment available through State and Commonwealth agencies, such as the National Plan stockpile. Equipment available through these means would be surplus to the numbers presented in this table.

Table C3: Response Technique – Critical Equipment Availability

Response Technique	Critical Components	CAPL	OSRL	AMOSC	Other	Total number of Critical Components	Comments
Source Control – Well Capping	SFRT	0	0	1	0	1	
	Subsea Incident Response Tool Kit (SIRT)	0	1	0	0	1	Access to one out of two kits located in Singapore and Norway
	Capping Stack	0	2	0	0	2	OSRL - 2 x 15k psi capping stacks, located in Norway (15Kpsi BOP valve stack) and Singapore (15Kpsi gate valve stack). Note OSRL have 4 capping stacks, however CAPL have access to 2 out of the 4 at any one time
	Capping Stack Deployment Vessel	≥ 1	0	0	0	≥ 1	CAPL-provided vessel(s) would be sourced from the contracted Marine providers as per Table C1 in Appendix C
Source Control – Relief Well	MODU	0	0	0	0		Refer to Table C1 in Appendix C
Chemical Dispersants – SSDI	SFRT	0	0	1	0	1	
	Dispersant Delivery System (DDS)	0	1	0	0	1	OSRL - OSRL Service Level Agreement - Can deliver up to 30 GM /113 LPM of dispersant @5000PSI to 3000m of water. Fully air freightable – B747F and AN124. System includes topside pumps, flexible hose from surface to the seabed, and Subsea Hose Deployment System
	Dispersant	0	5791 m^3	500 m^3	0	6194 m^3	OSRL - OSRL Service Level Agreement: 791 m^3; OSRL Global Dispersant Stockpile: 5000 m^3

Response Technique	Critical Components	CAPL	OSRL	AMOSC	Other	Total number of Critical Components	Comments
Monitoring Evaluation and Surveillance	OSTM service provider	1	0	1	1 - RPS	2	CAPL has a direct contract with RPS for OSTM services. CAPL EMT also has access to GeoHouse, a portal that provides access to immediate 2D spill trajectory modelling and ADIOS2 Fate and weather modelling
	Aerial surveillance aircraft provider	≥ 1	0	0	18 - AMSA	≥ 19	CAPL-provided aircraft(s) would be sourced from the contracted aviation providers as per Table C1 in Appendix C
	Surveillance vessel	≥ 1	0	0	0	≥ 1	CAPL-provided vessel(s) would be sourced from the contracted Maine providers as per Table C1 in Appendix C
	Electronic surface tracker buoy	5	2	8	0	15	
	Satellite imagery service provider	0	0	1	0	1	
Chemical Dispersants – VDS	Dispersant pumping/spray systems	1	33	21	0	55	OSRL - 3 x Neat Sweep Dispersant Boom System and 30 x Boat Spray set for use as vessel mounted type 3 dispersant application system (Boat sprays, AFEDO sprays etc.)
	Dispersant*	10 m^3	5791 m^3	261 m^3	0	6062 m^3	OSRL - OSRL Service Level Agreement: 791 m^3; OSRL Global Dispersant Stockpile: 5000 m^3 Does not include National Plan Dispersant Stockpile
Chemical Dispersants – ADS	Aircraft	0	2	0	18 - AMSA	20	OSRL - 727 aircraft in UK and C130 in Senai, Malaysia
	Dispersant	10 m^3	5791 m^3	261 m^3	0	6062 m^3	OSRL - OSRL Service Level Agreement: 791 m^3; OSRL Global Dispersant Stockpile: 5000 m^3 Does not include National Plan Dispersant Stockpile
	Air Attack Supervisor	1	0	0	?	0	
Containment and Recovery	Vessels	≥ 1	0	0	0	≥ 1	CAPL-provided vessel(s) would be sourced from the contracted Maine providers as per Table C1 in Appendix C
	200m Offshore Booms	7	60	21	0	88	OSRL - 36 x Ro-Boom 200m on reel without Power pack, 2 x Hi-Sprint boom 300m on reel without power pack, 4 x Norlense Oil Trawl, 7 x Nofi Current Buster 2, 7 x Nofi Current Buster 6, 4 x Elastec Hydro Fire Boom Does not include National Plan Equipment Stockpile
	Powerpacks	3	45	6	0	54	Does not include National Plan Equipment Stockpile
	Offshore Skimmers	4	60	14	0	78	Does not include National Plan Equipment Stockpile
Shoreline Protection and Deflection	250m of shoreline boom	7	96	46	0	149	Does not include National Plan Equipment Stockpile
Shoreline Clean-up	250m of shoreline boom	7	122	46	0	175	OSRL - 17160 m of Air/Skirt Boom for coastal areas, 5215m of beach sealing boom, 1880 m of solid floatation sea boom, 6270m of solid floatation near shore/river boom Does not include National Plan Equipment Stockpile
	Shoreline Flushing equipment	2	3	3	0	8	
	Nearshore Skimmers	4	139	22	0	165	
Oiled Wildlife Response	Pre-impact wildlife response package	6	15	1	3 - DBCA	12	For more info on pre-impact wildlife response package contents, refer to CAPL ABU Oil Spill Equipment Register (Ref. 11). DBCA also maintains a stockpile of pre-impact OWR equipment on Barrow Island
	OWR Container	0	0	2	4 – AMSA 1 – DBCA 1 – NSW Maritime	8	OSRL has one wildlife rehabilitation unit available

** Volume of dispersant available will change over time. Up to date volumes for support agency stockpiles can be found via their equipment lists available online*

Note – OSRL live capability is provided at https://www.oilspillresponse.com/readiness-dashboard/

Treatment Tables

Table C4 to Table C9 define the volume of hydrocarbons that could be recovered per response technique. These are used by the activity specific EPs to estimate the number of response packages (as defined in Table C2) per response technique required to treat an identified average surface hydrocarbon expression per day and volume of hydrocarbon accumulated onshore shoreline per week for the duration of the spill event, based on oil spill modelling conducted for the activity specific EPs.

Table C4: Volume of Hydrocarbon Recovery or Treatment per Response Package (SSDI)

Response Technique	Component	ID	Assumptions	Quantity
Chemical Dispersant – SSDI	Dispersant Volume	a	The design of the SFRT package specifies that a maximum pumping rate / dispersant injection rate for this equipment (based on flow rates of Oceaneering 17H single port high flow hot stabs) is 544 m^3 of dispersant per day (Ref. 45). This rate would result in either short application times and / or using dispersant stocks far too quickly. CAPL source control plans do not specify application rates as that depends on the well discharge rate, and the nature of the fluid being discharged. Thus, a conservative estimate of 150 m^3 of dispersant per day has been assumed.	150 m^3 / day
	Application ratio	b	Based upon dispersant efficacy experiments, an application ratio of 60:1 (oil to dispersant) is assumed for the purpose of this assessment (Ref. 46).	60:1
	Dispersant effectiveness	c	Lab testing on dispersant efficacy (Ref. 47, 48) has indicated an effectiveness of approximately 90% on fresh CAPL condensate. To be conservative, this estimate will adopt an effectiveness of 60%.	0.6
			Formula	**a x b x c**
			Hydrocarbon Treatment Capacity per day	**5400 m^3**

Table C5: Volume of Hydrocarbon Recovery or Treatment per Response Package (ADS)

Response Technique	Component	ID	Assumptions	Quantity
Chemical Dispersant - ADS	Dispersant volume	a	Each FWADC can carry between 2200 and 3300 L of dispersant per sortie (Ref. 49)	2.2 m^3
	Application ratio	b	Approximately a ratio of 25:1 (oil to dispersant) is commonly accepted practice for surface dispersant spraying (Ref. 23) based on speed, swath and pump rates for aircraft and vessels. ITOPF indicate that dosage ratios are expected to range between 5:1 and 50:1 with the ideal range determined via efficacy trials (Ref. 50). API indicate planning dosage ratios can be assumed 20:1 to treat a 0.1 mm thick oil slick (solid black or brown in colour) (Ref. 51). AMSA indicate that the starting dispersant to oil (DOR) application ratio is generally 25:1 and thus has been used for the purpose of this capability analysis (Ref. 52).	25:1
	Sorties per day	c	Using a flight speed of 200km/hr and on the assumption that the application zone is located on average approximately 200km from the airport (and assuming a landing and turnaround time of approximately 1 hour) each sortie will take 3 hours. Assuming a 12 hour operation (daylight hours only) a single package can complete 4 sorties per day.	4
	Dispersant effectiveness	d	API indicate that effectiveness can range significantly from 50-90% or more depending on the oil, weather conditions, etc (Ref. 51). Given the range of efficacy, in the event of a spill specific effectiveness should be assessed through on-going monitoring prior to and throughout application. For the purpose of this assessment - the lower end of effectiveness (50%) has been used for the purposes of conducting a conservative capability analysis.	0.5 %
			Formula	**a x b x c x d**
			Hydrocarbon Treatment Capacity per package per day	**110 m^3**

Table C6: Volume of Hydrocarbon Recovery or Treatment per Response Package (VDS)

Response Technique	Component	ID	Assumptions	Quantity
Chemical Dispersant - VDS	Dispersant volume	a	A vessel is assumed to have sufficient capacity to carry 4 m^3 (Ref. OSRL)	4 m^3
	Application ratio	b	Approximately ratio of 25:1 (oil to dispersant) is commonly accepted practice for surface dispersant spraying (Ref. 23) based on speed, swath and pump rates for aircraft and vessels. ITOPF indicate that dosage ratios are expected to range between 5:1 and 50:1 with the ideal range determined via efficacy trials (Ref. 50). API indicate planning dosage ratios can be assumed 20:1 to treat a 0.1 mm thick oil slick (solid black or brown in colour) (Ref. 51). AMSA indicate that the starting dispersant to oil (DOR) application ratio is generally 25:1 thus has been used for the purpose of this capability analysis (Ref. 52).	25:1
	Dispersant effectiveness	c	API indicate that effectiveness can range significantly from 50-90% or more depending on the oil, weather conditions, etc (Ref. 51). Given the range of efficacy, in the event of a spill specific effectiveness should be assessed through on-going monitoring prior to and throughout application. As vessel spraying is expected to be less effective than aerial application, a lower effectiveness ratio has been used for the purpose of this capability analysis.	0.3%
	Number of vessels per package	d	CAPL expect that per each VDS package a single vessel is required	1
			Formula	**a x b x c x d**
			Hydrocarbon Treatment Capacity per package per day	**30 m^3**

Table C7: Volume of Hydrocarbon Recovery or Treatment per Response Package (CAR)

Response Technique	Component	ID	Assumptions	Quantity
Containment and Recovery	Length of boom	a	OSRL indicate offshore booming based upon 200m length of offshore boom (Ref. 42).	200 m
	Boom opening	b	Boom opening assumed to be half the length of the boom.	0.1 km
	Vessel speed	c	AMOSC SOP for ROBOOM indicate that vessel speed should be less than 1 knot (Ref. 53). Thus vessel speed assumed to be 0.5 knot for the purpose of this capability analysis.	0.93 km/h
	Hours of operation	d	Hours of operation - which assumes 50% waiting on weather.	6 hr
	Encounter rate	e	Assumed average encounter rate of 50g/m2.	50 g/m2
	Number of Vessels per package	f	CAPL expect that per each CAR package two vessels are required	2
			Formula	**b x c x d x e**
			Hydrocarbon Treatment Capacity per package per day	**27.9 m^3**

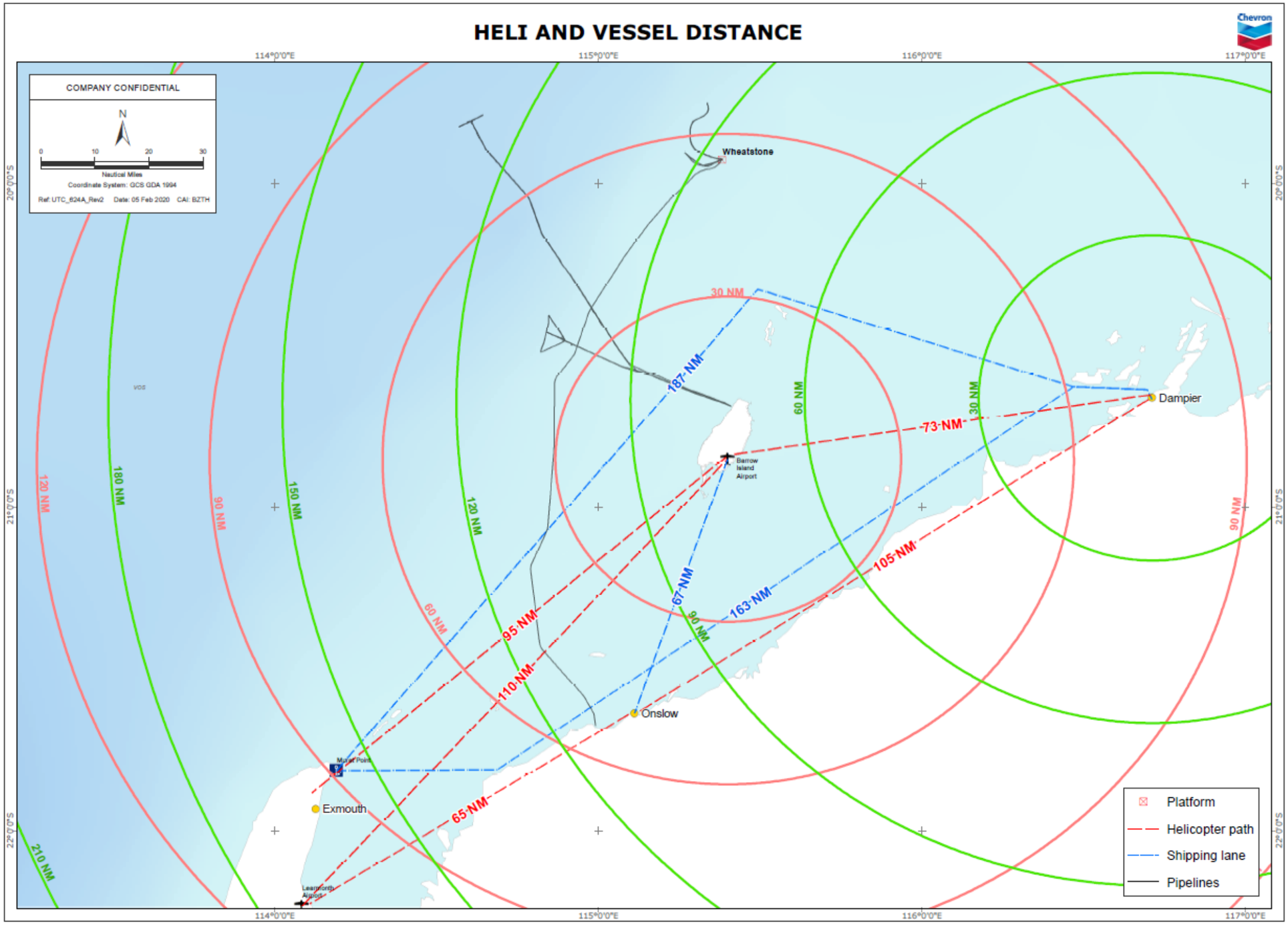
Table C8: Volume of Hydrocarbon Recovery or Treatment per Response Package (SPD)

Response Technique	Component	ID	Assumptions	Quantity
Shoreline Protection and Deflection	Length of boom	a	OSRL indicate nearshore booming based upon 200m length of boom (Ref. 44)	200 m
	Current speed	b	Current speed (thus encounter speed) in the region is in the order of 0.18 m/s (Ref. 54).	0.65 km/h
	Hours of operation	c	Hours of operation (assumes 50% (inappropriate weather) and once set up deflection activities can be continuous).	12 hr
	Encounter rate	d	Assumed low concentrations (modelling indicates hydrocarbons concentration adjacent to shorelines are at most the order of 10g/m2).	10 g/m2
			Formula	**a x b x c x d**
			Hydrocarbon Treatment Capacity per package per day	**15.6 m^3**

Table C9: Volume of Hydrocarbon Recovery or Treatment per Response Package (SHC)

Response Technique	Component	ID	Assumptions	Quantity
Shoreline Clean-up	Number of people	a	Number of people per team	8 people
	Recovery rate	b	IPIECA indicate that a person can recover 2m^3 of oily sand per day (Ref. 55).	2 m^3
	Hydrocarbon concentration	c	IPIECA Indicate that over the duration of an incident, manual recovery leads to a concentration of 5–10% oil in collected waste (Ref. 55)	0.1 m^3
			Formula (Hydrocarbon Treatment)	**a x b x c**
			Formula (Waste generation)	**a x b x (1-c)**
			Hydrocarbon Treatment Capacity per package per day	**1.6 m^3**
			Volume of waste generated per package per day	**14.4 m^3**

Appendix D Indicative Transit Times



From	To	Distance by sea (nm)	Distance by air (nm)	Travel Time					
				Vessel (hours)				Helicopter (mins)	Truck
				8 knots	11 knots	17 knots	25 knots	140 knots	60 km/h
Barrow Island	Thevenard Island	58	47	7.3	5.3	3.4	2.3	20	-
Barrow Island	Onslow	67	51	8.4	6.1	3.9	2.7	22	-
Barrow Island	Dampier	75	73	9.4	6.8	4.4	3.0	31	-
Barrow Island	Exmouth	114	95	14.3	10.4	6.7	4.6	41	-
Barrow Island	Learmouth Airport	-	110	-	-	-	-	47	-
Barrow Island	Platform	57	57	7.1	5.2	3.4	2.3	24	-
Dampier	Exmouth	187	168	23.4	17.0	11.0	7.5	72	9.3 hours
Dampier	Learmouth Airport	-	173	-	-	-	-	74	-
Dampier	Thevenard Island	116	107	14.5	10.5	6.8	4.6	46	-
Dampier	Onslow	113	108	14.1	10.3	6.6	4.5	46	9 hours
Dampier	Platform	87	87	10.9	7.9	5.1	3.5	37	-
Onslow	Thevenard Island	13	13	1.6	1.2	0.8	0.5	6	-
Onslow	Exmouth	65	57	8.1	5.9	3.8	2.6	24	6.7 hours
Onslow	Learmouth Airport	-	65	-	-	-	-	28	-
Onslow	Platform	108	108	13.5	9.8	6.4	4.3	46	-
Exmouth	Thevenard Island	57	57	7.1	5.2	3.4	2.3	24	-
Learmouth Airport	Thevenard Island	-	70	-	-	-	-	30	-

1. *Allow ~3 hours to travel from east to the west coast of Barrow Island via vessel*
2. *Total time = Activation time + travelling time, depending on the availability of the logistics*
3. *Vessel time is based on site information and knowledge and Geohouse*

Appendix E Links to Live Documents and Reference Tools

SharePoint file path for documents:
https://chevron.sharepoint.com/sites/ABUHSESOH/Oil%20Spill%20Working%20Documents/Forms/AllItems.aspx

No.	Document Name	Link
55.	Wheatstone IEMT OSR First Strike Checklist	ABU190201174
56.	Barrow Island IEMT OSR First Strike Checklist	ABU190800933
57.	Chevron ABU – Oil Properties and Dispersion Application Applicability	ABU180501458
58.	ABU OSMP Quick Reference Guide	ABU190800905
59.	PEMT Environment Unit Lead EMT Checklist – Oil Spill	ABU180401372
60.	Activate Oil Spill Modelling Request Procedures	Link
61.	Oil Spill Tracking Buoy Instructions	ABU190801365
62.	ABU – Oil Spill Modelling Proforma – Oil Spill Modelling Request	ABU140400072
63.	ABU Oil Spill Response Dashboard	Power Bi Link
64.	Strategic NEBA	ABU190801382
65.	ABU NEBA Template	ABU171100637
66.	Permission to Decant Oily Water Proforma	ABU190601723