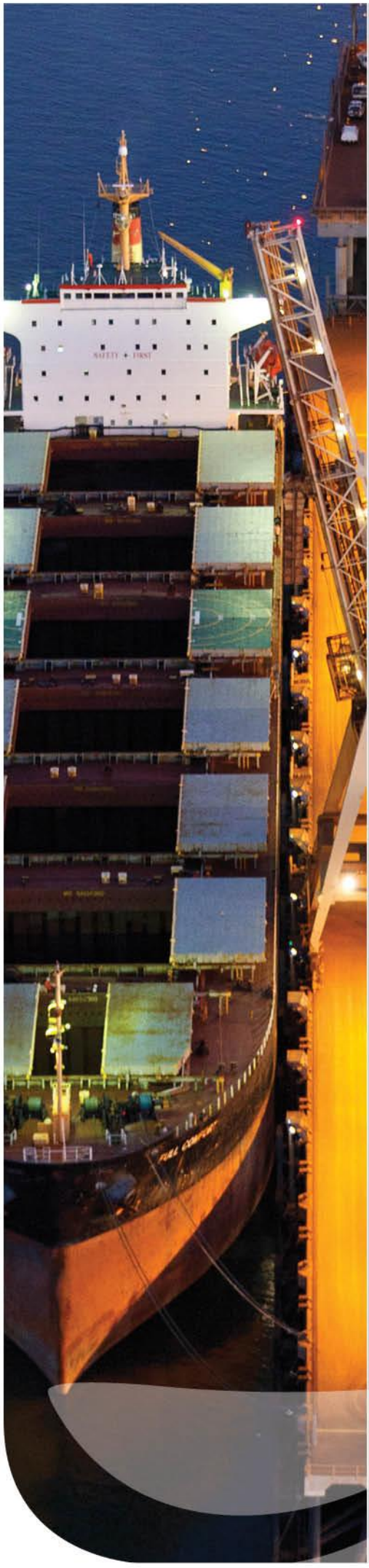

PILBARA PORTS AUTHORITY

PORT OF PORT HEDLAND MARINE POLLUTION CONTINGENCY PLAN

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FOREWORD

Pilbara Ports Authority is committed to the management of the environment and environmental resources in and around the Port of Port Hedland. Marine pollution incidents present a risk to the marine environment, the economy of the Pilbara Region, Western Australia and Australia and can adversely affect social amenity.

The Marine Pollution Contingency Plan has been developed to manage the impact of a marine pollution emergency by providing a response framework, a first strike plan based on the risk of a marine pollution incident, an alert and activation procedure and integration with the state and national plans.

Pilbara Ports Authority – Port of Port Hedland will implement this plan in the event of a marine pollution incident to minimise the impact of the marine pollution incident on the environment and economy.

To ensure the effectiveness of the plan, Pilbara Ports Authority will ensure that necessary training and exercises are undertaken so that staff and stakeholders such as commercial operators, port users, other state and federal government agencies and community groups are familiar with and able to successfully implement this plan.

The plan will be reviewed and tested at regular intervals to ensure that it meets the functional requirements of oil spill management at the Port of Port Hedland and is in line with industry best practice.

Philip Christy

General Manager Marine

Pilbara Ports Authority

1. DOCUMENT AMENDMENT TABLE

VERSION	PREPARED BY	DATE	AMENDMENT
1	Marine Operations Manager	Sept. 2016	Annual review and amendments
2	Harbour Master	19/2/2018	Annual review and amendments
3	Harbour Master	May 2019	Annual review and amendments regarding new State Hazard Plan (MEE)
4	Harbour Master	02 January 2020	Annual review and amendments
5	Harbour Master	29 October 2021	Annual review and amendments
6	Harbour Master	28 April 2022	Annual review and amendments

2. INTRODUCTION

2.1 Aim and Objectives

The Plan aims to:

- To enable Pilbara Ports Authority (PPA) Port of Port Hedland (PPA-PH) to protect, or where this is not possible, minimise the impact on the marine environment from any marine pollution incident within the port and its associated waters, through the initiation of a rapid, effective and appropriate incident response.
- To ensure that PPA responds according to the priorities and procedures outlined within this document.
- To provide an effective system for reporting, assessing and responding to an oil pollution incident or a potential incident.
- To ensure the organisation of resources of all agencies involved in the incident response are in a high state of preparedness.
- To enlist the co-operation and support of all relevant agencies within the region.
- To protect the corporate, economic and environmental interests of PPA.
- To ensure a seamless integration between PPA – PH, Western Australia (WA) and national response efforts.

2.2 Scope of the Plan

The Marine Pollution Contingency Plan (MPCP) applies to oil or hazardous and noxious substances within the Port of Port Hedland Port Limits as outlined in figure 1.

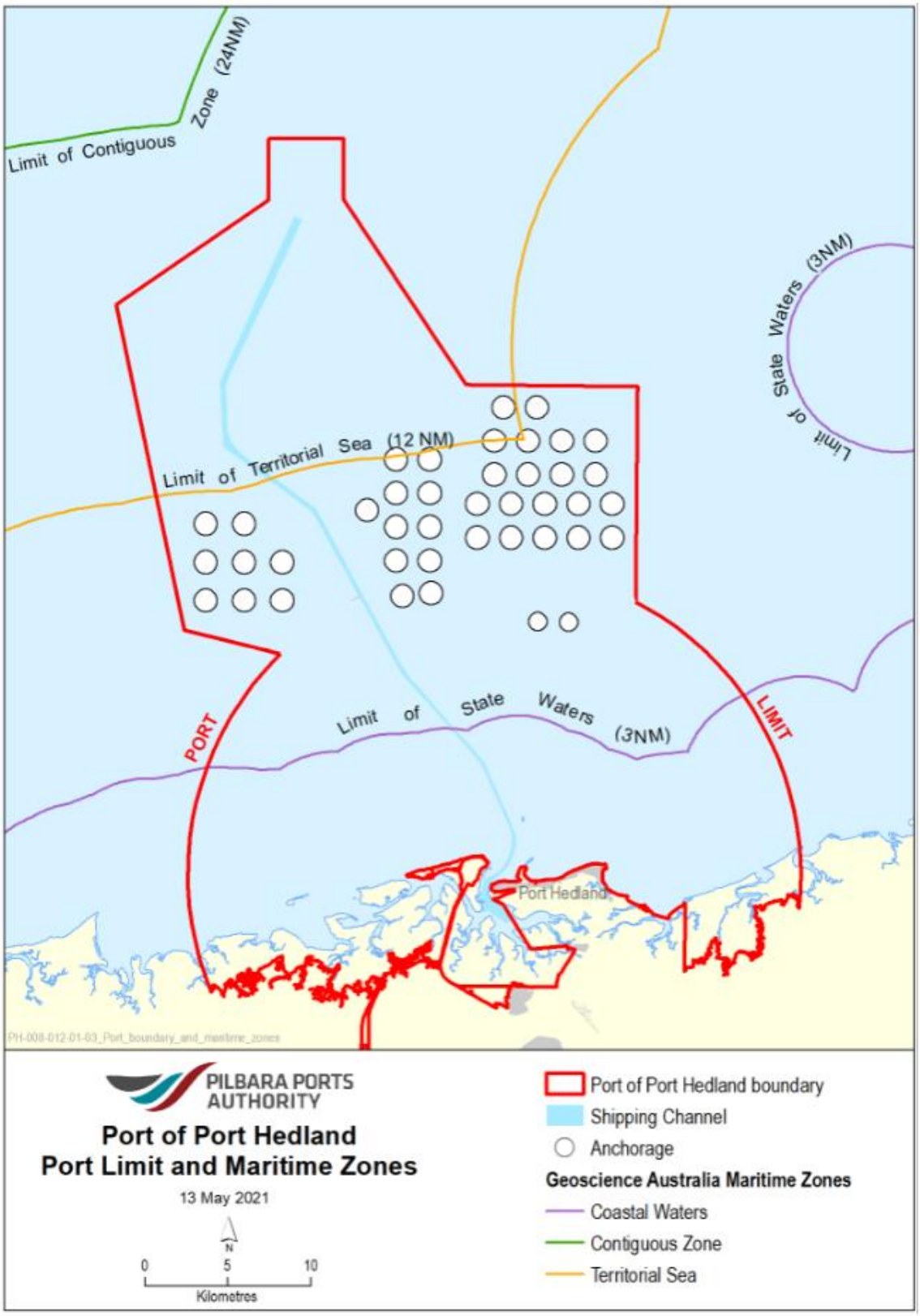


Figure 1 Port Hedland Port Limits

2.3 Acronyms

AIIMS	Australasian Inter-services Incident Management System
AMSA	Australian Maritime Safety Authority
AMOSC	Australian Marine Oil Spill Centre
ATSB	Australian Transport Safety Bureau
AUS	Australia
Avgas	Aviation gasoline
CCU	Casualty Coordination Unit
CEO	Chief Executive Officer
CST	Centistokes
DBCA	Department of Biodiversity, Conservation and Attractions
DFES	Department of Fire and Emergency Services
DOT	Department of Transport
DWER	Department of Water and Environmental Regulation
EPCB	Environment Protection and Biodiversity Conservation Act 1999
FLIR	Forward Looking Infra-Red
FSRP	First Strike Response Plan
G10	Automotive diesel fuel
MSGM	Marine Safety, General Manager
HFO	Heavy Fuel Oil
HMA	Hazard Management Agency
IC	Incident Controller
IFO	Intermediate Fuel Oil
IMT	Incident Management Team

IPIECA	International Petroleum Industry Environmental Conservation Association
ITOPF	International Tanker Owners Pollution Federation Limited
Jet A1	Aviation turbine fuel
JHA	Job Hazard Analysis
MARPOL	International Convention for Prevention of Pollution from Ships
MEER	Marine Environmental Emergency Response
MGO	Marine Grade Oil
MOP	Marine Oil Pollution
MPCP	Marine Pollution Contingency Plan
MSDS	Material Safety Data Sheet
MTE	Marine Transport Emergencies
NATO F76	Naval distillate
NEBA	Net Environmental Benefit Analysis
NRT	National Response Team
OPRC	International convention on Oil Pollution Preparedness, Response and Co-operation 1990
OSCA	Oil Spill Control Agent
OSIRT	Oil Spill Incident Response Team
OSRA	Oil Spill Response Atlas
OSTM	Oil Spill Trajectory Modeling
OWRP	Oiled Wild Life Response Plan
OWR	Oiled Wild Life Response
P& I	Protection and Indemnity
PPA	Pilbara Ports Authority

PPA-PH	Pilbara Ports Authority Port of Port Hedland
POLREP	Pollution Report
POWBONS	Western Australian Pollution of Waters by Oil and Noxious Substances Act 1987
RCC	Rescue Coordination Centre
SAR	Synthetic Aperture RADAR
SEC	South East Creek
SEMC	State Emergency Management Committee
SITREP	Situation Report
SLAR	Side Looking Aerial RADAR
SMEEC	State Maritime Environmental Emergency Coordinator
SMPC	State Marine Pollution Coordinator
SMS	Safety Management System
SRT	State Response Team
SWC	South West Creek
SWI	Standard Work Instruction
ToPH	Town of Port Hedland
ULP	Unleaded Petrol
VTS	Vessel Traffic Service
VTSC	Vessel Traffic Service Centre
VTSO	Vessel Traffic Services Officer
WA	Western Australia

2.4 Glossary of Terms

AMOS Plan: Is managed by AMOSC and outlines the cooperative arrangements for response to oil spills by Australian oil and associated industries.

Control Agency: The agency or company assigned by legislation, administrative arrangements or within the relevant contingency plan, to control response activities to a MOP emergency. The Control Agency will have responsibility for appointing the Incident Controller.

Control: The overall direction of emergency management activities in a designated emergency. Authority for control is established in legislation or in an emergency management plan and carries with it the responsibility for tasking and coordinating other organisations in accordance with the needs of the situation. Control relates to situations and operates horizontally across organisations.

End Point Criteria: Criteria established as part of the Incident Action Plan to determine points for terminate response activities.

Environment: Means the complex of physical, chemical and biological agents and factors which may impact on a person or a community, and may also include social, physical and built elements, which surround and interact with a community.

Environmental and Scientific Coordinator: Nominated person who provides scientific and environmental advice to the IC or SMPC.

First Response Agency: Agencies assigned to a MOP emergency district to respond on behalf of the Jurisdictional Authority as per a Memorandum of Agreement.

Incident Action Plan: The plan used to describe the incident objectives, strategies, resources and other information relevant to the control of an incident.

Incident Controller: Means the individual responsible for the management of all incident control activities across a MOP emergency.

Incident Control Centre: Primary control area and base of operations for the IMT. There is only one ICC for any MOP emergency.

Incident Management Response Register: The IMRR is comprised of personnel from the Jurisdictional Authority, Control Agencies and Support Agencies trained to perform IMT Unit Officer roles within an IMT.

Incident Management Team: The IMT is the group of incident management personnel comprised of the IC and personnel appointed by the IC to be responsible for the control of the response to a MOP emergency.

Jurisdictional Authority: The Agency that has the jurisdictional or legislative responsibility to ensure there is adequate prevention of, preparedness for, response to and recovery from a specific emergency.

Marine Oil Pollution Emergency: Actual or impending spillage, release or escape of oil or an oily mixture that is capable of causing loss of life, injury to a person or damage to the health of a person, property or the environment.

National Plan for Maritime Environmental Emergencies: Sets out national arrangements, policies and principles for the management of maritime environmental emergencies. It provides for a comprehensive response to maritime environmental emergencies regardless of how costs might be attributed or ultimately recovered.

Net Environmental Benefit Analysis: A methodology for comparing and ranking the net environmental benefit associated with multiple response alternatives. Net environmental benefits are the gains in environmental services or other ecological properties attained by remediation or ecological restoration, minus the environmental injuries caused by those actions.

Oil: Hydrocarbons in any liquid form including crude oil, fuel oil, sludge, oil refuse, refined products and condensates. Also including dissolved or dispersed hydrocarbons, whether obtained from plants or animals, mineral deposits, or by synthesis.

Oil Spill Contingency Plan / Oil Pollution Emergency Plan: A documented scheme of assigned responsibilities, actions and procedures, required in the event of a Marine Oil Pollution (MOP) emergency.

Port, Port Operator, Port Facility Operator: Any supplier of goods or services at a maritime facility within the boundaries defined by the *Shipping and Pilotage Act 1967* and *Port Authorities Act 1999*.

Staging Area: An area where resources are mustered and prepared for allocation to an incident. It may include the provision of welfare and equipment maintenance facilities.

State Marine Pollution Controller: Is the nominated individual who has overall responsibility for ensuring that a response to a major incident within their relevant jurisdiction is managed and coordinated appropriately.

Support Agency: An organisation or body providing support to a Control Agency. This may be in the form of equipment, personnel or logistics.

2.5 Jurisdictional Authority and Control Agencies

STATE HAZARD PLAN Marine Environmental Emergencies (MEE) contains information relating to the arrangements for managing marine oil pollution and marine transport emergencies. It must be read in conjunction with the state emergency management plan, which contains the generic emergency management, this document also outlines the Jurisdictional Authority and Control Agencies for MOP emergencies and outlines their respective responsibilities for Prevention, Preparation, Response and Recovery (PPRR).

2.6 Legislation

This plan meets PPA Port of Port Hedland's international, national and state obligation under the following conventions, acts, regulations and integrates with the following plans:

TABLE 1 – CONVENTIONS, ACTS & PLANS	
Convention	**Requirements**
1990 International Convention on Oil Pollution Preparedness, Response and Cooperation (the OPRC Convention).	Provision for contingency plans for ships, offshore platforms, coastal terminals and ports, and for the development of national response plans.
The United Nations Convention on Law of the Sea (UNCLOS)	Establishes rules for the use of the oceans and their resources. Confers rights on the coastal states.
1973/78 International Convention on the Prevention of Pollution from Ships (MARPOL)	Established to prevent pollution of the marine environment from ships for operational and accidental causes
1969 International Convention Relating to the Intervention on the High Seas in Cases of Oil Pollution Casualties (INTERVENTION)	Affirms the rights of coastal states to take such measures as may be necessary to prevent, mitigate or eliminate danger to its coastline or related interests following a marine casualty
1989 International Convention on Salvage (SALVAGE)	International framework for salvage. Expanded on the no cure no pay principle to provide enhanced salvage award for preventing or minimising damage to the environments
International Convention on Civil Liability for Oil Pollution Damage (CLC)	Relates to ships carrying oil as cargo. Ensures that adequate compensation is available for persons who suffer from oil pollution and places the liability on the owner of the ship.
International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (FUND)	Establishes an international fund, subscribed to by the cargo interests, which would provide for the dual purposes of: Relieving the shipowner of the additional financial burden imposed on them by the CLC; and Provide compensation to the extent that the protection afforded by CLC is inadequate
International Convention on Civil Liability for Bunker Oil Pollution Damage 2001	Provides for the recovery of pollution costs and payment of compensation from owners/ operators of all vessels using oil as bunker fuel and references the liability arrangements in the Convention on Limitation of Liability for Maritime Claims, 1976 and the 1996 Protocol.

TABLE 1 – CONVENTIONS, ACTS & PLANS	
Acts	**Requirements**
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act 1999) as amended	Provides for protection of the environment and biodiversity in accordance with international conventions of which Australia is a signatory.
Protection of the Sea (Prevention of Pollution by Ships) Act, 1983 as amended and Marine Orders Parts 91 and 93	Implements the International Convention for Prevention of Pollution from Ships (MARPOL). S11A requires vessels to have a Shipboard Oil Pollution Emergency Plan (SOPEP). Prohibits the discharge of oil or oily mixtures within coastal waters and sets penalties. Requires the reporting of all oil pollution incidents S11 [1] and sets penalties for failure to comply. A number of Marine Orders issued and administered by Australian Maritime Safety Authority (AMSA) under this Act.
Protection of the Sea (Civil Liability for Bunker Oil Pollution Damage) Act 2008	Enacts the BUNKER convention into national law.
Protection of the Sea (Civil Liability) Act 1981	Enacts CLC into national law.
Protection of the Sea (Oil Pollution Compensation Fund) Act 1993	Enacts the FUND convention into national law.
Protection of the Sea (Powers of Intervention) Act 1981	Enacts the INTERVENTION convention into national law. Details the power of intervention within the Exclusive Economic Zone (EEZ), territorial sea and internal waters.
The Western Australian Pollution of Waters by Oil and Noxious Substances Act 1987 (POWBONS) as amended.	The WA Act implementing MARPOL for state waters. Port Authorities are considered “Appropriate Authorities” under POWBONS and have a Statutory Authority responsibility to respond to spills of oil and noxious substances within port waters.
Port Authorities Act 1999 as amended	The Port Authorities Act 1999 (WA) details the functions, the areas that they are to control and manage, the way in which they are to operate and related matters.
Emergency Management Act 2005	The Emergency Management Act 2005 provides for prompt & coordinated organization of emergency management in the state, and for related purposes.
Plans	**Requirements**
National Plan for Marine Pollution Emergencies	National arrangement for Marine Pollution Emergencies.

TABLE 1 – CONVENTIONS, ACTS & PLANS	
	Maritime Emergency Response Commander (MERCOM) and the powers of intervention. Combat Agency Arrangements.
State Hazard Plan – Maritime Environmental Emergencies (MEE)	Provides an overview of arrangements for the management of marine oil pollution and marine transport emergencies in Western Australia and contains information on prevention, preparedness, response and recovery. Collectively, these two hazards are referred to as Maritime Environmental Emergencies
Western Australia (WA) Oil Spill Contingency Plan (OSCP)	Outlines the procedures and arrangement for responding to and recovering from marine oil pollution emergencies in state waters.
WA Oiled Wildlife Response Plan (WAOWRP)	Provides guidance to oiled wildlife response agencies to the approach to an oiled wildlife marine pollution response.
Pilbara Region OWRP - PROWRP (Regional sectored operational plan)	Provides operational guidance to respond to any injured or oiled wildlife resulting from a marine based spill from any source in the Pilbara region.

2.7 Western Australia Hazard Management Arrangements

The Western Australian Emergency Management Act 2005 as amended specifies the Hazard Management Agencies (HMA) for Western Australia. The Marine Safety, General Manager, Department of Transport (DoT) is the Hazard Management Agency (HMA) for marine oil pollution and marine transport emergencies. Department of Transport WA is the Jurisdictional Agency for marine environmental emergencies within State Waters and is responsible for the development, implementation and revision of the State Hazard Plan – Maritime Environmental Emergencies (MEE), in consultation with key stakeholders. PPA-PH is the Control Agency for Level 1 marine oil pollution emergencies within Port Hedland Port Limits. For Level 2 and 3 marine pollution emergencies within Port Hedland Port Limits, PPA may be appointed as the Control Agency in writing by the Hazard Management Agency.

For all hazardous and noxious substance incidents, the Department of Fire and Emergency Services (DFES) is the HMA.

2.8 Integration with PPA Plans, Manuals and Procedures

The MPCP integrates with and is supported by:

- The Pilbara Ports Authority Business Continuity Manual
- The Pilbara Ports Authority Crisis Management Plan

- The Pilbara Ports Authority Incident Management Plan
- The Pilbara Ports Authority Emergency Response Procedures – Operational

3. RISK ASSESSMENT

DET Norske Veritas produced a report for AMSA on Marine Oil Pollution Risks for the Australian Coast. In the report, the Pilbara coast line rated as a 'very high risk' for a marine pollution incident and the Port of Port Hedland is rated as a high risk for a marine pollution incident.

The following are the main possible causes of marine pollution emergencies:

- Collision between vessels
- Allision with a navigation aid or wharf
- Vessel grounding
- Illegal discharge from a vessel or ashore
- Incident during bunkering or cargo transfer operations

The risk of a marine pollution incident is increased by:

- Seaworthiness of vessels
- Negligence and/ or competence of the owner/operator, master or crew
- Age of the fleet
- Size/type of vessel
- Stowage and control of cargoes
- Type/amount of chemical(s) and oil carried
- Proximity of navigation hazards
- Traffic density
- Environmental factors including tidal flow and weather etc

The main types of fuels used / imported within the Port Hedland Harbour and adjacent waters is:

- Heavy Fuel Oil (HFO)
- Intermediate Fuel Oils (IFO)
- Marine Grade Oil (MGO)/ NATO F76
- Automotive diesel fuel (G10)
- Unleaded petroleum (ULP)
- Aviation turbine fuel (Jet A1)
- Aviation piston fuel (Avgas)
- Hydraulic oils

HFO and IFO are present in significant quantities as bunker fuel on ships calling at Port Hedland. MGO and NATO F76 are also used as bunker fuel within the Port. G10, ULP, Jet A1 and Avgas are handled over the Port Hedland public berths (PH1 and 3). The

average parcel size is 25 to 30 kiloton (kt) of G10 and 5 to 10 kt of minor grades (ULP, Jet A1 or Avgas).

Noxious chemicals are not currently handled in bulk at Port Hedland.

3.1 Indicative Volumes

Table 2 provides credible indicative volumes.

TABLE 2 - INDICATIVE VOLUMES

SOURCE	INCIDENT	LOCATION	OIL TYPE	POTENTIAL VOLUME		
Bulk Ore Carrier	Grounding (Total Loss)	Anchorage, Channel or Harbour	Heavy Fuel Oil / MGO	<60,000 DWT	2,200T HFO	300T MGO
				60,000 – 90,000 DWT	4,500T HFO	380T MGO
				90,000 – 160,000 DWT	4,500T HFO	400T MGO
				160,000 DWT and above	Up to 700T HFO	Up to 1000T MGO
	Grounding		Heavy Fuel Oil	Up to 400T		
	Collision with wharf or another vessel	Harbour / Wharf or Channel	HFO or Diesel	Up to 150T		
Fuel / Oil Tanker	Grounding	Anchorage	CPP2 Bunkers	Up to 5,000T Up to 750T		
		Channel	CPP2 Bunkers	Up to 5,000T Up to 750T		
		Harbour	CPP2 Bunkers	Up to 5,000T Up to 750T		
	Collision (Total Loss)		CPP2 Bunkers	Up to 40,000T Up to 3,000T		
	Unloading accident	PH1 or PH3	CPP2	Up to 10T		
Fishing Vessel / Commercial Vessel	Grounding (Total Loss)	Anchorage, Channel or Harbour	Diesel	50T		
	Collision	Harbour / Wharf or Channel	Diesel	25T		

TABLE 2 - INDICATIVE VOLUMES				
Tug / Pilot Vessel	Grounding (Total Loss)	Channel or Harbour	Diesel	30T
	Collision with wharf or another vessel	Harbour / Wharf or Channel	Diesel	30T
Bunkering	Pipeline breach or other loading accident	PH1, PH3 or Service Jetty	Diesel	25T (Based on 15-minute loss of control)

3.2 Fate of the Primary Risk in the Marine Environment

3.2.1 Classification of Oils

Oils are generally classified by the American Petroleum Institute gravity scale into groups. Table 3 outlines the grouping of oils based on specific gravity. Oils within each group will generally have similar viscosity, spreading rates and pour points. Oils within each group will have a similar fate in the marine environment. Table 4 outlines the general fate of the oil in the marine environment.

TABLE 3 – OIL GROUPS AND PROPERTIES					
GROUP	**SPECIFIC GRAVITY**	**API GRAVITY**	**VISCOSITY (CST AT 15^{O}C)**	**% BOILING <200^{O} C**	**% BOILING >370^{O}C**
I	<0.8	>45	0.5 – 2/0	50 – 100	0
II	0.8 – 0.85	35 – 45	4 – solid	10 - 48	0 – 40
III	0.85 - 0.95	17.5 – 35	8 – solid	14 – 34	28 - 60
IV	0.95 – 1.0	<17.5	1500 – solid	3 – 34	33 - 92

TABLE 4 – FATE OF OILS IN THE MARINE ENVIRONMENT				
WEATHERING PROCESS	**GROUP I**	**GROUP II**	**GROUP III**	**GROUP IV**
Spreading	Rapid	Rapid	Rapid	None
Evaporation	High	Moderate	Moderate	None
Emulsification	Little or no tendency	Low to moderate	Moderate to high	High
Physical dispersion	Rapid	Moderate to rapid	Moderate to slow	Slow
Dissolution	Little	Low	Little	Little or none

TABLE 4 – FATE OF OILS IN THE MARINE ENVIRONMENT				
Photo-oxidation	Not significant	Not significant	Not significant	Not significant
Sedimentation	Very low probability	Very low probability	Low probability	Low probability unless in contact with sediment

More information on the properties and weathering of oil can be found in the ITOPF Technical Information Paper 2 Fate of Marine Oil Spills and The Global Oil and Gas Industry Association for Environmental and Social Issues (IPIECA) Finding 19 Guidelines on Oil Characterisation to Inform Spill Response Decisions.

3.2.2 Diesel (MGO, NATO F76 or G10)

Diesel is a refined product, light petroleum distillate which is a Group II oil with a relatively low specific gravity and low pour point (-17 to -30°C). Diesel is a light persistent oil which will weather and evaporate rapidly. However, when present in large quantities, diesel will present a significant risk to the marine environment.

Diesel, once in the water will spread rapidly with potentially small quantities covering large areas. In summer conditions experienced at the Port, the oil will evaporate rapidly. In summer conditions, potentially up to 80% of the volume will be lost through evaporation in the first hour. Further, with wave action and mixing, the slick will rapidly weather and dissipate.

In winter conditions, diesel will be more persistent. The oil will rapidly spread but will not lose as much volume through evaporation. Wave action and mixing will still allow for weathering and dissipation of the oil. Diesel will not emulsify in climatic conditions experienced in Port Hedland.

3.2.3 Intermediate Fuel Oil and Heavy Fuel Oils

IFO and HFO are residual refined product with a higher specific density and high viscosity. IFO and HFO are of variable composition with a high specific gravity. IFO 180 is a Group III oil and IFO 360 is a Group IV oil. Both are highly persistent.

Once in the water IFO and HFO will emulsify with a water content of up to 80 percent. The light ends, or volatile aromatic components will evaporate leaving heavier residuals. This means the specific gravity will increase with time. IFO and HFO will not readily spread and can be expected to fragment and form patches. IFO and HFO will show little tendency to disperse or dissolve.

As IFO emulsifies it will be less reactive to Oil Spill Control Agents (OSCA). HFO has too high a viscosity to be treatable with OSCA.

3.2.4 Light Performance Products (ULP, Jet A1 or Avgas)

Other light petroleum products such as ULP and Avgas are extremely volatile. These oils will spread rapidly with high physical dispersions and evaporation. These products will weather rapidly and dissipate unless present in large volumes. Careful assessment of the safety aspects is required when responding to these light petroleum products as they are potentially highly flammable and very toxic.

4. RESPONSE STRUCTURE

4.1 Incident Controller

The Incident Controller (IC) for all marine pollution incidents is the Harbour Master or delegate.

The responsibilities of the IC include but are not limited to:

- Take charge and exercise leadership, including the establishment of a management structure
- Set objectives for the response to the incident, considering the safety of communities as a priority
- Develop and approve plans and strategies (IAP) to control the incident
- Implement the IAP and monitor its progress
- Provide information and warnings to communities and other relevant groups so informed decisions can be made
- Establish effective liaison and cooperation with all relevant agencies, affected communities and others external to the IMT
- Obtain and maintain human and physical resources required for the resolution of the incident
- Apply a risk management approach, and establish systems and procedures for the safety and welfare of all persons working at the incident
- Ensure relief and recovery considerations are addressed, and that services are provided to the persons and communities impacted by the incident
- Ensure collaboration between response and recovery agencies

4.2 Incident Control System

PPA Port Hedland has adopted the Australasian Inter Services Incident Management System (AIIMS) for incident management in accordance with the guidance in the Pilbara Ports Authority Incident Management Plan (IMP).

As per the National Plan the following Incident Classifications are used:

- **Level 1** – are generally able to be resolved through the application of local or initial resources only. The Harbour Master or delegate would be the Incident Controller for a Level 1 incident.

- **Level 2** - are more complex in size, duration, resource management and risk and may require deployment of jurisdiction resources beyond the initial response.
- **Level 3** – are generally characterised by a degree of complexity that requires the Incident Controller to delegate all incident management functions to focus on strategic leadership and response coordination and may be supported by national and international resources.

For level 2 and level 3 incidents the State Marine Pollution Controller (General Manager Marine safety at WA DoT) will formally appoint the IC and provide a written statement of intent. In determining the level of the response for a marine pollution emergency the following shall be considered:

- The volume and type of oil spilt
- The location of the spill and the proximity of protection priorities
- The extent of predicted/ potential shoreline impact
- The requirement for resources beyond the PPA-PH inventory
- The likely duration of the response effort
- The requirement for specialist skills

When making the initial assessment of level, the IC must consider the lag time for state and national resources to arrive and to scale up early.

4.3 IMT Structure

Port of Port Hedland First Strike Response Plan contains an indicative IMT structure for a marine pollution incident. The functional areas that PPA-PH will fill include:

- Incident Controller
- Planning function
- Operations function
- Logistics function
- Finance function
- Casualty Coordination function

The role that each functional are performs is outlined in the PPA IMP.

An investigation into the marine incident may be conducted by the Australian Transport Safety Bureau (ATSB), AMSA or the WA Department of Transport (DOT) Marine Safety Investigation Unit (MSIU). These organisations will perform the role of the investigation function with support from PPA as required. The IMT is to provide support and assistance as required.

Oiled Wildlife Response (OWR) under the State Hazard Pan – MEE is the responsibility of the WA Department of Biodiversity, Conservation and Attractions

(DBCA). Copies of the OWRP's are available in the Planning and Operations boxes and at the links below.
The WA OWR Plan is available at: WA Wildlife Response Plan

The Pilbara Region OWR Plan is available at: Pilbara Region Oiled Wildlife Response Plan

4.4 Media and Public Relations

Media and Public relations will be handled by PPA Communications team for a level 1 incident. For level 2 and 3 incidents, media and public relations will be coordinated by the PPA communications team in conjunction with WA DOT. The communications team is contactable by:

- Mobile: 0447 072 294
- Email: media@pilbaraports.com.au

4.5 Salvage and Casualty Coordination

In the event of a maritime casualty that involves actual or potential marine pollution; careful management of the salvage effort is required. The vessel owners will engage a salvor to render the casualty to a safe state and deliver the vessel to a specified location. The management of the salvage effort requires careful oversight to ensure it is effective and does not result in further risk to the marine environment or the operations of the port.

For level 1 incidents a casualty coordination unit will be established within the IMT.

For level 2 and level 3 incidents, a separate casualty coordination IMT will be raised. This unit will work closely with the salvor and commonwealth agencies to ensure the effectiveness of the salvage effort and the protection of the marine environment.

4.5.1 Role of the Casualty Coordination Unit

The role of the Casualty Coordination Unit (CCU) will depend on the nature of the incident. For level 1 incidents the CCU will reside in the IMT where it will be responsible for coordinating the salvage effort and the marine pollution response.

The CCU will also liaise with the following:

- Ship master
- Salvor
- DOT
- AMSA

The CCU is to ensure that the salvage plan is:

- Adequate
- Properly resourced

- Minimises the potential impact on the environment
- Does not have the potential to create further risk to port infrastructure or operations
- Takes into account forecasted and prevailing weather conditions

4.6 IMT Locations

4.6.1 Incident Control Centre (ICC)

The designated ICC for Port Hedland is the IMOC Level 5 Incident Control Centre located in the Integrated Marine Operations Centre. The following table outlines the functional areas breakout rooms;

TABLE 5 – ICC LOCATIONS		
FUNCTIONAL AREA	**BREAKOUT ROOM**	**COMMENTS**
Planning	IMOC Level 5	Additional desk space is available in the IMOC Building
Operations	IMOC Level 5	Additional desk space is available in the IMOC Building
Finance	Finance Office area	
Logistics	IMOC Level 5	Additional desk space is available in the IMOC Building
Media	CEO's Office	

Functional area boxes are located in the storeroom on IMOC Level 5. The boxes contain the relevant forms, plans and associated items to assist in the management of the functional areas.

4.6.2 Field Teams

For teams deploying into the field, a dedicated team leader will be appointed. This will be a member of Oil Spill Incident Response Team (OSIRT) who has been assessed as competent. The team leader will provide direction and leadership to field teams and communicate back to the sector or functional area. The size of the team will be based on the team leader's span of control.

4.6.3 State Marine Pollution Coordinator (SMPC)

In WA, the State Marine Pollution Controller (SMPC) is referred to as the State Maritime Environmental Emergency Coordinator (SMEEC).

The DOT Marine Safety General Manager (MSGM) is the SMEEC as per the State Hazard Plan (MEE) For Level 1 incidents the interaction between the SMEEC and the IC will be limited. Updates will be passed via Pollution Report (POLREP) or Situation Report (SITREP).

For level 2 and level 3 incidents the SMEEC will formally appoint the IC and provide a written statement of intent. The statement of intent should generally follow the order of response priorities outlined below with a focus on the safety of life and minimising the impact of the incident.

For level 2 and level 3 incidents the SMEEC will provide DOT a liaison officer to the IMT. This will generally be a member of the MEER, who will be rapidly mobilised to site.

4.6.4 Inter-agency and External Liaison

Where the IMT is liaising with another agency such as DFES or Town of Port Hedland (ToPH), consideration should be given to include a representative of that agency in the IMT as a liaison and / or advisor. This will facilitate better communication, a fuller assessment of the response requirements and ensure a more coordinated and efficient response.

A representative of the vessels Protection and Indemnity Club (P&I Club) should be present within the IMT as an advisor to ensure that there is open communication and involvement for the P&I Club.

5. REPORTING AND DETERMINING THE SCALE OF RESPONSE

5.1 Reporting of Marine Pollution Incidents

All marine pollution incidents shall be reported as soon as practicable to the Port Hedland Vessel Traffic Services Centre (VTSC) on VHF channel 12 or via telephone (08 9173 9030). The following details shall be provided:

- Vessel name
- Location of spill
- Estimated volume of oil spilt
- Extent of the slick and direction of travel
- Type of oil spilt (HFO/ MGO etc.)
- Has the discharge ceased
- Any casualties on-board
- Resources being deployed, and actions being taken to stop and respond to the spill

The Duty Vessel Traffic Services Officer (VTSO) shall take actions in accordance with the designated Emergency Response Checklist.

5.2 Investigation and Confirmation

Where possible during daylight, the Duty VTSO shall gain confirmation of the extent of the incident from nearby vessels or the pilot transfer helicopter.

This will confirm the report and will assist with the determination of the scale of the incident and provide more detail relating to, the extent and direction of travel of a potential oil slick or sheen.

5.3 Oil Spill Incident Response Team (OSIRT) Activation

The IC will, where appropriate, activate the First Strike Response Plan (FSRP). The Duty VTSO will commence callout procedure for the first responders in accordance with Emergency Response Checklist. The duty VTSO is to advise the first member contacted to proceed to the oil spill equipment shed. Upon notification of a marine pollution incident, OSIRT members shall proceed to the oil spill equipment shed for deployment into the field as per OSIRT Callout and Mobilisation Procedure contained within the Port of Port Hedland First Strike Response Plan.

Note: All members of the Oil Spill Incident Response Team have swipe card access to the oil spill shed. Additionally, the Oil Spill Equipment shed key is held at the Security Gatehouse and can be signed out by any member of OSIRT.

5.4 External Reporting

All marine pollution incidents shall be reported to the WA-DOT Marine Environmental Emergency Response (MEER) unit and the AMSA Rescue Coordination Centre (RCC) within 30 minutes of the initial report.

- MEER – 08 9480 9924 (24 hours)
- RCC – 1800 641 792 (24 hours)

The initial verbal report is to be followed up with a POLREP submitted within 24 hours of the incident. The POLREP is available on the DOT website: DOT Marine Pollution Report (POLREP)

The POLREP is to be submitted to;

- MEER - marine.pollution@transport.wa.gov.au
- RCC - rccaus@amsa.gov.au

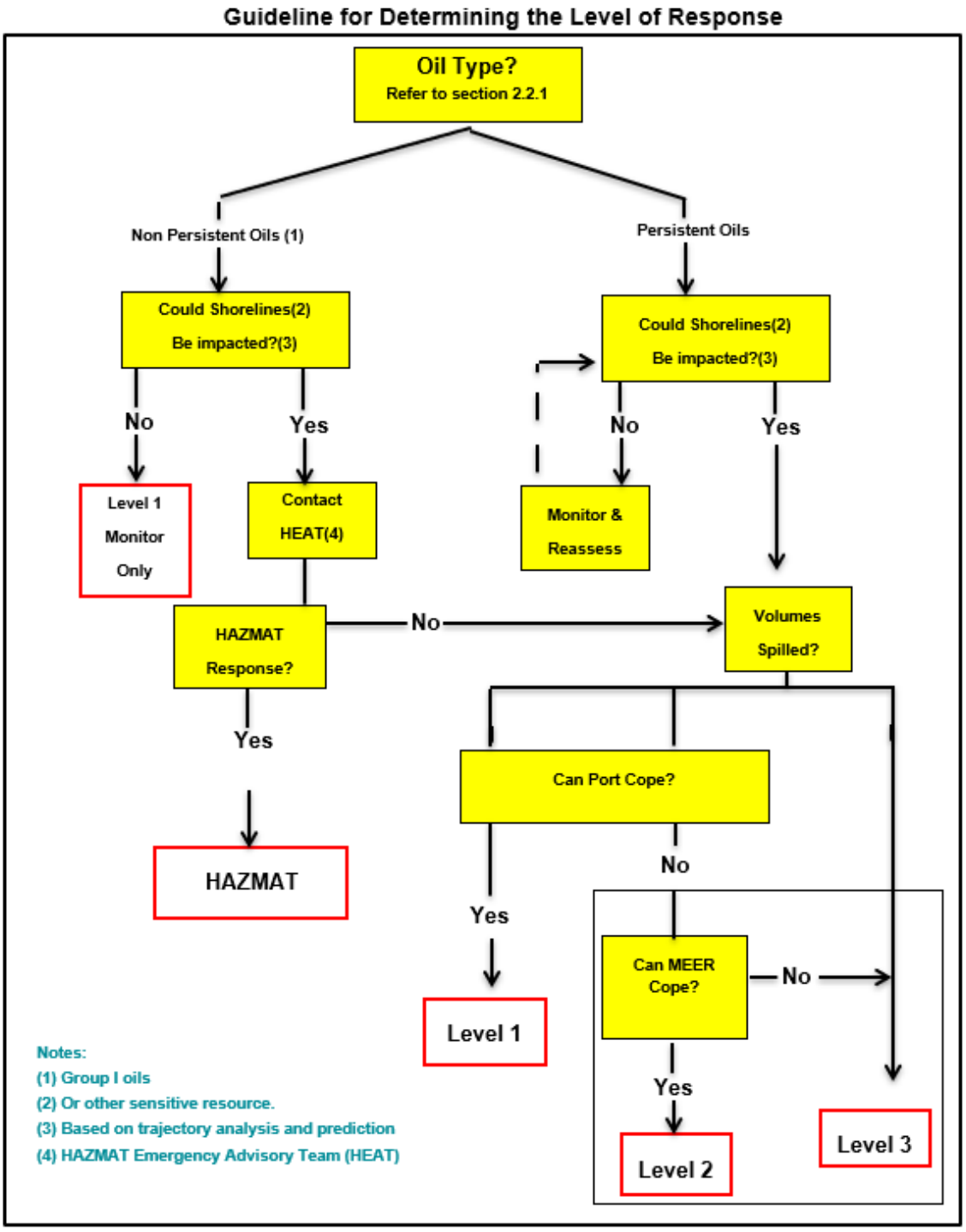
Note: The legal obligation to report rests with the polluter. PPA will provide a verbal report to MEER and RCC and ensure that all reporting obligations are met. In the event the polluter cannot be identified PPA-PH will submit the POLREP.

5.5 Scale of the Response

Based on the initial report and subsequent confirmation the IC shall determine the required response. This determination is to include the level of the response and an initial assessment of the requirement for state or national assistance.

Where state or national assistance is required the IC is to contact the duty officer at MEER on the number above and request state and/ or national assistance as appropriate. The request is to be backed up with an email when convenient.

State and national assistance can be requested at any point in the response. There will be a lag between the request and arrival of resources on site. Assistance should be sought early from the state or national response team to minimise the impact of mobilising resources.



Guideline for Determining the Level of Response – Figure 4.1

6. PROTECTION PRIORITIES

Note: The protection priorities listed below are based on an internal assessment. These will need to be reassessed for each marine pollution event. They are a guide to assist the initial response efforts and to expedite initial planning.

Oil Spill Response Atlas (OSRA) maps for Port Hedland and the surrounds are available online using the following link: Response planning tools

The primary environmental sensitivity in the inner harbour is the mangrove habitat, that fringe the port area. These are vital to biodiversity and the health of the eco system. Oil has a devastating effect on mangroves as it covers the trees breathing pores or kills the trees through toxicity. Heavy fuel oils will be highly persistent in mangroves habitat.

Primary environmental sensitivities outside of the inner harbour are:

- Cemetery Beach (turtle nesting site),
- Pretty Pool (mangrove habitat) and
- Pretty Pool (turtle nesting site)
- Hunt Point (seagrass and dugong habitat)

Port Hedland has a number of migratory bird nesting sites in the surrounding areas (not covered by international conventions). Whales migrate past Port Hedland between July and September.

6.1 Protection Priorities within the Port area

The following are considered the highest protection priorities within the Port area;

- Inner Harbour (environmental assets e.g. mangroves habitat)
- Cemetery beach (turtle nesting site)
- Pretty Pool environmental assets (mangrove habitat)
- Inner Harbour berths and shipping channel (economic)
- Shipping Channel (economic)
- Spoil Bank (social amenity)
- Town boat ramp (social amenity and commercial)

Social sensitivities for social amenity and recreational fishing include:

- Inner Harbour mangrove habitat
- Spoil Bank
- Hunt Point
- Finucane Island
- Cooke Point
- Pretty pool, 4-mile beach and 6-mile beach

6.2 Economic Significance of the Port

The Port of Port Hedland is the largest bulk export port in the world. Approximately 30 percent of all sea borne iron ore trade originates from the Port. The Port is critical to the continued success of the Western Australian and National economies and the continued prosperity of the Pilbara Region.

Vital operational areas within the Port include the following:

- Shipping Channel
- Inner Harbour
- Dampier Salt intakes at 6-mile beach

7. SURVEILLANCE AND MONITORING

7.1 Initial Assessment

The initial assessment of the incident will be based on limited and in some cases unconfirmed information. This needs verification to allow a proper assessment of the size and scale of the incident to be determined.

7.2 Situational Awareness

The IC and IMT needs to quickly gain situational awareness to determine:

- The scale of the incident
- The risk to environmental sensitivities
- The potential for a shoreline impact
- The need for resources

This can be gained quickly by vessel or aerial observation. Where possible, a trained aerial observer is to attend the flight. If this is not possible then photographs of the spill will provide additional information. Where available, use should be made of an aerial observation drone.

Once situational awareness is initially gained it needs to be maintained through regular observation.

Visual observation will be extremely limited at night except possibly within close proximity of the wharves, or the use of Forward Looking Infra-Red (FLIR) camera on fresh oil.

7.3 Aerial Observation

Aerial observation is powerful tool in oil spill response. Aerial observation allows for the situation to be quickly and relatively accurately assessed. It also allows for confirmation of trajectory modelling and continued assessment of the effectiveness of response efforts.

For initial assessments a photo or sketch of the extent of the oil will be acceptable from the pilot. But for more detailed analysis a trained aerial observer is required and should be put on the helicopter as soon as practicable.

The contracted pilot transfer helicopter should be utilised as soon as practicable to gain situational awareness. For larger spills, the systematic use of aerial observation will be key to the success of the response. A program with regular overflight and observation should be scheduled. Aerial observations should be scheduled as follows:

- An early morning flight to gain situational awareness from the night before and confirm trajectory modelling
- An afternoon flight to update the IMT prior to afternoon briefs
- Flights as required to maintain situational awareness, such as for change of weather conditions or early on for large amounts of mobile oil

Due to the proximity of the helipad to the likely impacted areas and the number of helicopters on site, rotary wing aircraft will be highly effective for aerial observation. For very large spills with large amounts of mobile oil, the use of fixed wing aircraft should be considered. Assistance from AMSA can be requested through WA DOT for use of the search and rescue assets. These will take time to mobilise to site. To request the assets the IC should contact MEER with the request.

All aerial observation should, where possible, be conducted in accordance with the guidelines of the Bonn Agreement Aerial Operations Handbook.

When assessing oil on the water, the Bonn Oil Appearance code shall be used. The following 5 codes shall be used for assessing oil on the water as outlined in Table 6.

TABLE 6 – BONN OIL APPEARANCE CODE

CODE	DESCRIPTION OR APPEARANCE	LAYER THICKNESS INTERVAL (µm)	LITRES PER KM^2
1	Sheen (silvery / grey)	0.04 to 0.30	40 to 300
2	Rainbow	0.30 to 5.0	300 to 5000
3	Metallic	5.0 to 50	5000 to 50,000
4	Discontinuous true oil colour	50 to 200	50,000 to 200,000
5	Continuous true oil colour	More than 200	More than 200,000

When making the assessment of oil in the water guidance shall be taken from the Bonn Agreement Oil Appearance Code Atlas.

All Aerial observation shall be reported on the DOT aerial observation form .

Where trajectory modelling is produced it should be verified by aerial observation to confirm validity. The modelling is based on assumptions and models which try

to reflect real world conditions. Small errors in the modelling can produce results that vary significantly from observations.

7.4 Vessel Observation

Vessel observation can assist with developing or maintaining situational awareness. However, vessels are more limited in their ability to visually observe the oil. Vessels due to the height of eye of the observer and the lower relative speed are less capable in terms of visual and photographic observation. Vessels are able to provide a quick initial assessment of incidents when operating in close proximity to the source.

8. RESPONSE PRIORITIES AND OPTIONS

8.1 Response Priorities

The response priorities are as follows:

- Human health and Safety
- Habitat and cultural resources
- Rare / endangered flora and fauna
- Commercial resources
- Recreational and amenity areas

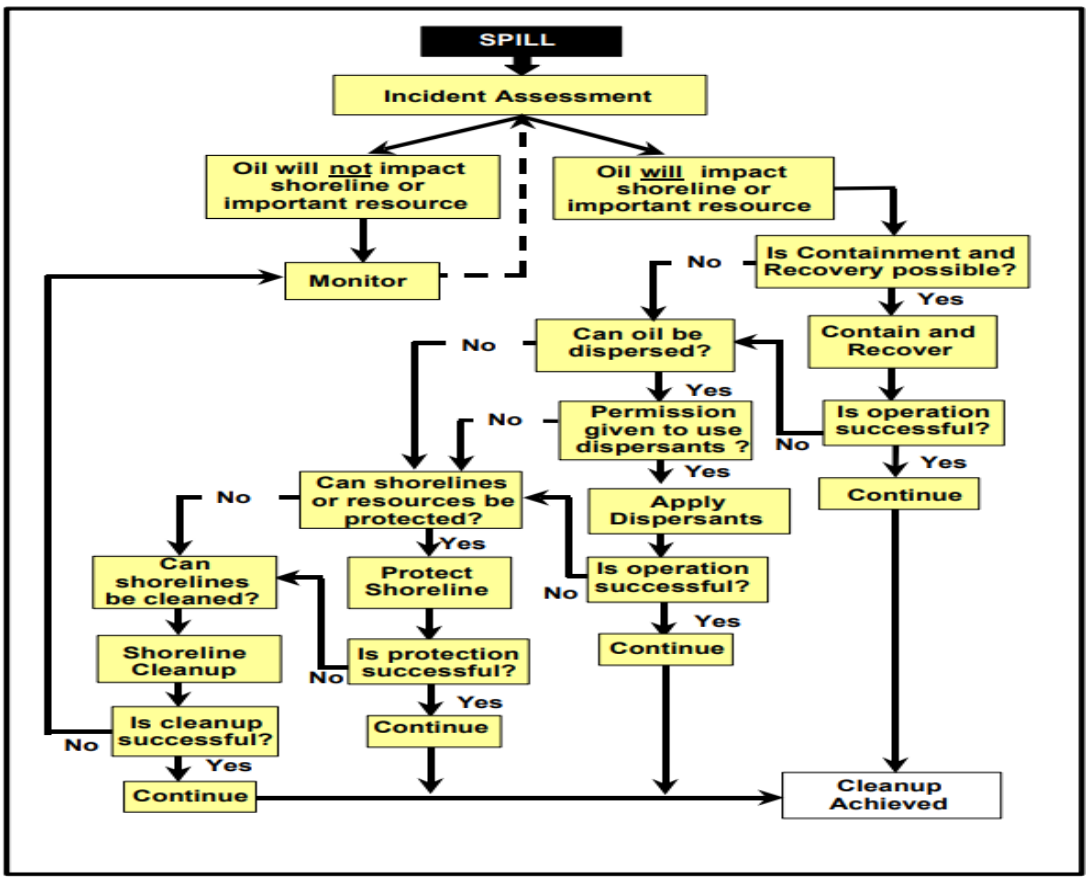
Note**:** The primary response priority is the protection of human health and safety.

The overriding principle for marine pollution response is that the response efforts will have a net environmental benefit. That is the efforts to recover the oil will have less environmental impact that allowing the oil to weather naturally in the environment.

8.2 Immediate Response Options

Initial response actions are to be taken in accordance with the First Strike Response Plan. The FSRP has been developed for the most likely scenarios and utilises the prepositioned oil spill equipment to ensure the most effective response to minimise the impact on the protection priorities.

Where the incident falls outside the guidance in the FSRP a brief guidance on the effectiveness of strategies and tactics is given below.



8.3 Strategies and Tactics Evaluation

Due to the differing environments the Port has been separated into two (2) segments, the Outer Harbour and the Inner Harbour. The Outer Harbour is defined as the area beyond Spoil Bank that is to the North of Beacon 37. The Inner Harbour is defined as the area to the south of Beacon 37.

The strategies and tactic evaluation below are done in the order most likely to be successful. Each strategy has a summary of the approach and a synopsis of likely success.

8.4 Protection, Containment and Recovery / Marine Response

Protection, containment and recovery, involves the physical capture of oil on the water through the deployment of booms and the recovery of oil using skimmers. This will involve the use of vessels to contain the oil and transport waste, booms either towed by vessels or anchored in place to capture oil and skimmers to remove oil from the water's surface.

This is the preferred method but is dependent on a number of factors such as:

- Swell

- Wind
- Current

An assessment of the effectiveness of containment and recovery needs to be undertaken and careful monitoring and tending of booms is required. Booms are susceptible to several failures including:

- Entrainment – where oil breaks away from the bottom of the boom due to wave and current turbulence
- Drainage – where oil capture in the boom escapes under the boom due to the presence of too much oil
- Splash over – where captured oil in the boom passes over the boom due to swell and chop
- Submergence – where the boom is pulled below the water surface because the towing speed is to high
- Planning failure – where the boom is forced parallel to the water surface as in blown over due to high winds

In the Inner Harbour, the approach of protecting, containing and recovering of spilt oil likely to be the most successful response option. Based on the credible spill scenarios and the proximity of the protection priorities, equipment has been prepositioned to mitigate the risk of oil entering the mangroves as per the FSRP. The barges have been prepositioned at natural collection points in South West Creek and Stingray Creek. Once the boom has been deployed and providing it is tended properly there is sufficient storage capacity for waste oil and the equipment is designed for the primary risk of HFO.

Skimmer and containment boom deployed

Responder 4 will be effective in recovering oil on the water either in a standalone or in a v-sweep arrangement. Responder 2 and Responder 3 barges will contain oil and are capable of recovering the oil form the surface.

Responder 4 in J sweep mode

There is sufficient zoom boom available for J sweeping with vessels of opportunity to assist with on water recovery. This is preferable to shoreline clean up as it minimises the waste generated.

The J sweep arrangement is likely to be the most viable response option for the Outer Harbour. Booming of the vessel is possible depending on sea state. However, the large tidal flow and swell will make this less viable than in the Inner Harbour. A V-sweep from R4 will be effective and a J-sweep with vessels of opportunity is viable.

8.5 Shore Line Response

Note: To ensure the best outcome in the event of a shoreline impact, it is vital that a beach pre-assessment and pre-clean is undertaken. This will allow for detailed planning of the shoreline response and minimise the amount of waste collected.

Shoreline response involves several different components including:

- Shoreline protection (deployment of boom or barriers to capture or deflect oil)
- Shoreline cleaning and remediation

Shoreline protection involves the deployment of booms or erecting of barriers to protect sensitivities. Shoreline cleaning and remediation involves the manual or mechanical cleaning, washing methods or shoreline cleaners. Shoreline clean-up is resource intense and requires careful planning and execution.

Note: the use of heavy machinery to clean shorelines is not recommended. Heavy machinery removes more sand than manual cleaning and can push oil into the substrate of the beach which will result in remobilisation of oil for an extended period.

Shoreline response is considered a less viable option in the Inner Harbour south of the Main Street Jetty and Finucane Island D Berth. The mangrove habitat will severely inhibit shoreline clean up. The rocky shoreline on Hunt point and form the Main Street Jetty around towards Spoil Bank will be extremely difficult to clean and careful consideration is required to ensure any cleaning methods have a net environmental benefit.

Shoreline clean-up is a viable option in the Outer Harbour. Careful monitoring of the oils potential impact will be required due to the environmental sensitivities such as Cemetery Beach and the presence of rocky shoreline with fringing reefs. Deflection booming should be considered for any potential impacts on Cemetery Beach.

8.6 Natural Recovery

Natural recovery involves allowing the oil to degrade naturally over time. This is the preferred option where the oil does not pose a risk to sensitive natural or socioeconomic resources or where the net environmental impact of removing the oil is greater than allowing the oil to degrade naturally.

In the Inner Harbour, there are areas where natural recovery could be considered, such as on rock walls and some structures. However natural recovery is not a viable option for the mangrove areas fringing the Inner Harbour.

In the Outer Harbour, depending on the time of year and the prevailing weather conditions this is unlikely to be a viable response option due to the proximity of natural and socioeconomic resources. Trajectory modelling combined with aerial observation will be required to ensure that the oil is tracking away from environmentally sensitive areas and the slick is weathering as predicted.

8.7 Oil Spill Control Agents (OSCA)

OSCA or dispersants are chemical agents that are used to treat the oil. The OSCA breaks down oil slicks into smaller droplets by interrupting the surface tension and disperses the oil through the water column. This approach is viable in certain cases and is dependent on:

- Type of oil
- The depth of water
- The environmental sensitivities that will be affected by the oil in the water or impacted if the oil is not treated
- The prevailing and forecast weather

OSCA's are generally not considered suitable for oils with a viscosity greater than 5000 centistokes (CST). The primary risks in Port Hedland are HFO, IFO and refined light petroleum products. OSCAs are not a viable response option for HFO or light petroleum products such as MGO, ULP and other distillates. IFO has a narrow window of 4 to 8 hours for treatment before emulsification renders the oil untreatable. Dispersant application requires significant logistical support and requires mobilisation of aircraft or vessels, the OSCA and a system for application.

Prior to using an OSCA, a Net Environmental Benefit Analysis (NEBA) must be conducted. The NEBA is to consider the net environmental impact of using OSCA's versus the oil not being treated and weathering naturally. That is, will the oil do less damage to the environment on the surface with potential impacts to sensitivities or will the oil do more damage to the environment if dispersed into the water column. Further guidance on the NEBA is provided in Section 7.14.

All OSCA used must be on the AMSA Register of oil spill control agents

Further guidance on seeking approval for use of OSCA's refer to the obtaining approval to use an oil-spill control agent at sea or on a shoreline

In accordance with Appendix I Oil Spill Control Agents Guidelines of the WA Oil Spill Contingency Plan 2015 the Control agency must seek approval from the Jurisdictional agency (WADOT) prior to implementing a dispersant strategy.

Where OSCAs are used, aerial observation during application is required to determine the effectiveness of the OSCA. If the oil has responded to the OSCA, a change in appearance should be visible from the air shortly after application. If the following occur, the application has not been successful:

- No visible change in appearance
- No reduction in oil coverage
- The dispersant runs off the oil and forms a milky white plume

OSCAs are not considered a viable response tactic in the Inner Harbour due to the shallow water depth and the proximity of environmental sensitivities. A water depth

of 10 meters or less is considered too shallow for OSCA's to effectively disperse the oil.

OSCA may be a viable option in the Outer Harbour for an IFO under certain circumstances such as a continuous release or periodic release. However, the NEBA must be completed and approval from WA DOT gained before the application of dispersants.

8.8 In-situ Burning

In-situ burning involves capturing the oil in specialised fire resistant oil spill equipment and burning the oil with the assistance of an OSCA. This is not a recognised response strategy in Australia. Any agents used to promote ignition must be on the National Plan OSCA Register.

Due to the proximity of population centers and the hazard posed by toxic fumes burning, and the requirement for specialist fire retardant boom, in-situ burning is not considered a viable response option in the Inner or Outer Harbour.

8.9 Cost Recovery

All cost associated with the response must be tracked. This is vitally important for the recovery of costs from the polluter. The finance functional area is responsible for the tracking of costs associated with the response effort. All responders are responsible for recording and advising finance of any cost associated with the response, this would include maintaining records of labor registration and responder time sheets.

For an ongoing response effort, a P & I Club representative should be included in the authorisation of expenditure to ensure minimal delays in cost recovery and that all costs can be recovered. The P & I Club will only cover cost incurred in an efficient and effective response.

8.10 Response Planning Support Tools

8.10.1 Trajectory Modelling

Spill trajectories can be determined by:

- Direct observations (Surveillance)
- Manual calculation based on a vector diagram
- Computer modelling – OSTM Oil Spill Trajectory Modelling

Computer based oil spill trajectory modelling (OSTM) is available through AMSA. OSTM backed up by oil spill observations are a powerful tool to assist in determining the potential impact of the oil, its fate and the effectiveness of the response. The Planning Officer is to provide trajectory modelling at the earliest opportunity and at regular intervals thereafter.

AMSA provide OSTM on request. The planning cell will need to complete an AMSA Form 95 National Plan Spill Trajectory Model Request.

The Form 95 is available on the AMSA website;

The following information is required to be provided with the form;

- The time and location (expressed in Latitude and Longitude) of the spill.
- The quantity and type of oil.
- Whether or not the spill is continuing.
- Actual tide conditions (height & time).
- Surface current data (if available).
- Prevailing wind direction, strength and forecast wind conditions for the required modelling period.

This information should be accompanied by relevant detail on the location of the spill which can be achieved by noting it on a section of the nautical chart or using more advanced options available through the PPA GIS team.

The completed form and supporting documentation is to be emailed to OSTM@amsa.gov.au Once the form has been sent the AMSA Duty Marine Pollution officer is to be contacted through the Australian Rescue Coordination Centre (RCC AUS) on 1800 641 792.

Once the trajectory modelling has been received, it should be verified by aerial observation. The trajectory modelling is based on assumptions and can vary for the actual trajectory of the oil.

In general terms oil will follow 100% of current speed and direction and 3% of wind speed and direction.

8.10.2 Determining Protection Priorities

Once first strike response plan actions have been completed, situational awareness has been gained and the trajectory of the oil has been predicted, an assessment of the resources at risk needs to be made.

DOT WA provides an online web based Oil Spill Response Atlas (OSRA). Access is available through the Port Hedland Marine or the Environment team.

8.11 Ongoing Response

Where the size and complexity of the incident requires a response effort with duration greater than a week, careful consideration to fatigue management and business continuity will be required. Once the initial first strike response has been conducted, careful considerations of the use and allocation of personnel should be made. Where the response will continue for more than a week the IMT should be

divided into two (2) with the intention being for the first IMT group working for 5 to 7 days before handing over to the second IMT group. Any work routine shall comply with PPA Fitness for Duty Policy – Fatigue Management Policy.

In order for PPA to maintain control of the response effort and to ensure that PPA's corporate objectives and business continuity is maintained a PPA staff member should be used for the role of IC and each functional head. The use of Dampier based staff should be considered to augment the PH capability.

For an ongoing and prolonged response, State Response Team (SRT) and National Response Team (NRT) resources should be mobilised. The SRT and NRT can provide both field team leaders and IMT resources.

For prolonged responses, the appointment of a Deputy IC should also be considered. The Deputy IC will be able to assist the IC by ensuring the smooth and efficient running of the IMT and ensuring all time-based outcomes are achieved whilst the IC coordinates external engagement.

8.11.1 Mobilising Personnel

For a large scale and ongoing response, all labour mobilised needs to be carefully tracked. Each person participating in the response needs to register using a Labour Registration Form (WM01) or Labour registration Form 235 (235) and be provided with an induction outlining;

- Administrative requirement
- PPA Safety and Incident reporting requirements
- Outline of the response
- PPA point of contact
- Accommodation and meal arrangements

8.12 Forms and Templates

To ensure compatibility with the Western Australian Oil Spill Contingency Plan, PPA-PH utilises the WA DoT forms except for the Job Safety Analysis (form WM08) and Work Place Incident (form WM05). The forms are available at the following link DOT oil spill contingency plans - forms or in each functional areas box.

8.13 Waste

Marine pollution incidents have the potential to generate large volumes of waste. Oil in the water increases its volume by between 3 to 5 times. Oil stranding ashore can increase in volume by between 10 and 50 times depending on the type of shoreline and the presence of debris.

The key principle for waste management is waste minimisation. In the event that a shoreline will be impacted the following should occur:

- Shoreline pre-assessment

- Shoreline pre-clean

This will reduce the amount of waste, facilitate planning for shoreline clean-up and assist with cost recovery.

Facilitate planning for shoreline clean-up and assist with cost recovery.

8.14 Net Environmental Benefit Analysis (NEBA)

A NEBA is a detailed assessment of the net environmental benefit of response options. The NEBA is a valuable planning tool which allows the response options to be carefully assessed and the best option selected. A NEBA is required when seeking approval for the use of OSCA's.

PPA-PH uses the DOT NEBA Template which is available in the planning box. The template outlines the required steps and guides the planning section through the process of conducting the NEBA.

When assessing the resources at the risk the following resources areas and subsets should be considered.

Water Surface:

- Seabird feeding areas
- Waterbird feeding areas
- Marine mammals
- Aquaculture
- Social amenity
- Tourism
- Economic such as the shipping channel or inner harbour

Shoreline Resources:

- Mangrove habitats
- Intertidal mud or sand flats
- Beach type
- Rocks or rocky shorelines
- Bird feeding, roosting or nesting areas
- Heritage sites
- Social amenity
- Tourism

Water Column:

- Fish spawning areas
- Marine mammals
- Seabird feeding areas
- Benethic systems

- Commercial and recreational fishing
- Commercial water intakes

8.15 Response Termination and Demobilisation

As the response progresses, a determination on the endpoint will be required. This should be based on the guidance from AMSA in Foreshore Assessment, Termination of Clean Up and Rehabilitation.

As recovery rates of oil and oiled debris fall, the scale of the response will need to be reduced. The planning functional area in conjunction with operations and logistics is responsible for developing a demobilisation plan and a plan for the transition to recovery.

9. SAFETY AND HAZARD MANAGEMENT

The protection of people from harm is the highest response priority. All response activities must be undertaken safely, in compliance with PPA standard operating procedures, and with consideration for the risks outlined below.

All personnel must comply with:

- PPA Occupational Safety and Health Policy
- PPA Fitness for Duty – Drug and Alcohol Policy
- PPA Fitness for Duty Policy – Fatigue Management Policy
- PPA Hazard Management Procedure
- PPA PPE Procedure
- PPA Incident Management Policy

9.1 Hazard Management

Oil Spill response actions have inherent risks/ hazards associated with them due to the toxicity and nature of the oil, the use of machinery, the weather, and presence of wildlife. The PPA Hazard Management Procedure requires that the hazards associated with each task are identified and documented, and that controls are implemented to reduce the risk to as low as reasonably practicable. PPA has developed a number of Standard Work Instructions (SWI) for deployment of the following response equipment, and activities:

- Barge Responder 2
- Barge Responder 3
- Responder 4 with V-sweep
- Boom deployment at Pretty Pool
- Responder 4 with bow collector

Each team member is required to review the relevant SWI (available in hard copy at the oil spill equipment shed and with the equipment, and on the PPA SharePoint page). Responders must also complete an individual Take 5 risk assessment to

record any hazards and controls not reflected in the SWI. For any task where an SWI has not been developed, a Job Hazard Analysis (JHA) is to be developed by the team. Where the circumstances change during the response, a new Take 5 shall be conducted, and the JHA shall be reviewed in accordance with the Hazard Management Procedure. During any marine pollution response, all PPE controls stated in the risk assessment shall be worn by response personnel.

Crude oil and petroleum products are complex chemical mixtures, containing polycyclic aromatic hydrocarbon solvents (such as benzene) and or hydrogen sulphide. Careful analysis of the oil shall be undertaken to determine the risk to responders, with consideration for how responders may become exposed to hazardous products, such as through:

- Effects of vapours
- Inhalation
- Skin Contact and ingestion

Additional risks may exist in the following circumstances:

- During the initial weathering stages, when oil can be particularly toxic as the light ends evaporate
- Under wharves and jetties, where the atmosphere may allow toxic gasses to build up or oxygen to be displaced

Other risks specific to each product are outlined in the relevant Material Safety Data Sheet (MSDS). In the event the MSDS are not readily available from the vessel, a generic MSDS for bunker oil can be quickly accessed via the PPA ChemAlert system.

Responders should refer to the product MSDS to establish appropriate controls.

OSCA, degreasers, and detergents used to clean equipment also present different hazards. Refer to the relevant product MSDS for appropriate handling precautions.

Other hazards typically associated with oil spill response include:

- Toxicity of the oil or OSCA
- Uneven or slippery surfaces (potential for slips and falls)
- Wildlife and plant life (potential for physical injury, inappropriate handling causing harm)
- Machinery and equipment (potential for vehicle collisions, burns, crush injuries, being struck by mobile equipment)
- Working over or near water (potential for drowning)
- Hazardous substances (potential for ingestion or dermal reaction)
- Heavy, awkward or slippery equipment (potential for manual handling injuries)

- Extreme weather conditions inherent in the Pilbara Region (potential for hypothermia, heat exhaustion, heat stroke or sun burn)

Personnel should be mindful that gloves and other PPE become extremely slippery when oiled, increasing the time required to complete simple tasks. Shade is to be erected close to the work site, and water made available for all responders.

In case of emergency, personnel shall contact the VTS on 9173 9030 or VHF 12, in accordance with the PPA Port of Port Hedland Emergency Response Procedures.

All hazards and other incidents including injuries, property damage, and near misses must be reported to the relevant team leader immediately and addressed in accordance with the PPA Incident Management Procedure.

10. EQUIPMENT AND CAPABILITY MAINTENANCE

PPA has a strong commitment to maintaining a high level of response preparedness. In order to ensure that PPA meets its obligations for preparedness and marine pollution emergency response PPA-PH has a multi-facetted approach to preparedness that encompasses;

- Planning
- Equipment
- Training
- Annual exercise
- Continuous improvement

10.1 Oil Spill Response Committee

The Oil Spill Response Committee is to ensure that PPA–PH is meeting its obligations for marine pollution response preparedness and planning. The committee is to comprise of members of relevant business sections of PPA based in Port Hedland. The committee is chaired by the Port Hedland Deputy Harbour Master.

The objectives of the oil spill committee include:

- To ensure that PPA-PH maintains a high level or preparedness for marine pollution incidents based on the risk of an incident and the potential impact of sensitive resources.
- Equipment is appropriate and meets contractual requirements
- That staff are trained and able to safely and effectively participate in a response
- That the Marine Pollution Contingency plan is up to date and in line with industry best practice

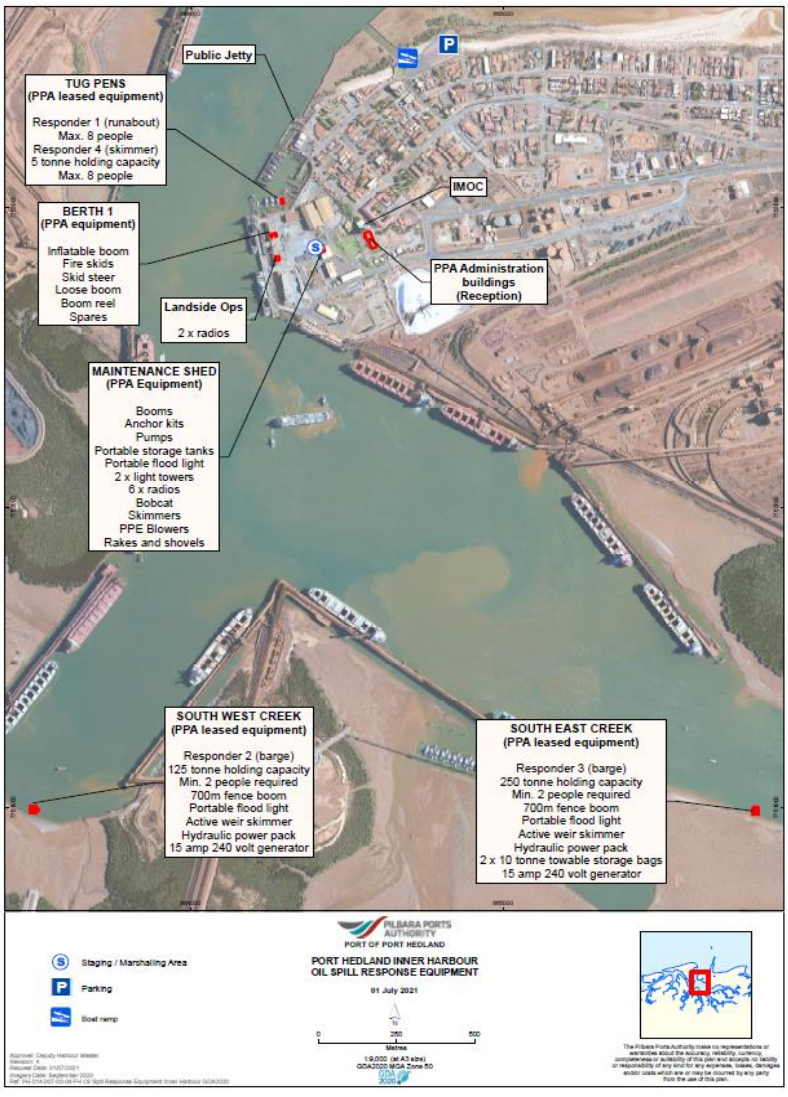
The Oil Spill Response Committee is to meet quarterly. The minutes of the meetings are to be distributed to relevant PPA Port Hedland staff.

10.2 Equipment

The equipment listed in Annex 1 of the Port of Port Hedland First Strike Response Plan is owned by the PPA and maintained by West Coast Response. Maintenance is conducted in accordance with the Service & Maintenance schedule of the contractual agreement between PPA and West Coast Response.

Where the equipment is damaged it is to be reported as soon as practicable as follows:

- During a response – to the team leader and then to the Operations functional area
- Outside of a response to the Deputy Harbour Master and raised as equipment damage via PPA incident reporting system



10.3 Training

In order to meet PPA-PH preparedness, the Executive has approved the following training for Port Hedland based staff:

- Senior Operations Managers
  - AIIMS Level 2
  - Media training
- Designated Incident Controllers
  - AMSA National Plan Incident Control Course
  - Media training
- Designated Functional Heads
  - National Plan training for nominated functional area
  - National Plan IMT Course
- IMT Staff either
  - AMSA National Plan IMT
  - Level 1 Incident Management Course
- OSIRT
  - Attend OSIRT training 4 times a year
  - DOT Oiled Shoreline Course
  - DOT Basic Operators Course
- All Staff
  - For staff located in the regions - Oil Spill familiarisation training at least twice per year (combination of classroom and on water training)
  - For staff located in Perth - Oil spill familiarisation training at least once per year
- Operations Staff
  - National Plan Online Introduction to Marine Pollution

Training will be conducted in line with the PPA mandatory training matrix established for Port Hedland oil pollution response requirements.

10.4 OSIRT

OSIRT is primarily comprised of PPA operations and maintenance staff, which in the event of a marine pollution response will carry out the first strike deployments.

OSIRT training is to ensure that OSIRT members can safely and effectively operate the oil spill equipment and have the required knowledge to make informed decision in the field and provide advice to the IMT. During the training OSIRT members who

are identified as competent and who are accepting of further training, will be provided training to perform the role of team leader of oil spill response.

10.5 Annual Exercise

To ensure that a high level of preparedness is maintained, and staff can safely and effectively operate the oil spill response equipment, an exercise will be conducted annually. The exercise is to include both IMT and field deployment in line with the Port of Port Hedland First Strike Response Plan.

11. PROCESS OWNER

The Harbour Master is the process owner. The General Manager Marine Operations is the approver of this plan.