

North-west Australia 4D Marine Seismic Survey – Oil Pollution First Strike Plan

Security & Emergency Management Hydrocarbon Spill Preparedness Unit

July 2019 Revision: 0

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Uncontrolled when printed. Refer to electronic version for most up to date information.

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS

TABLE OF CONTENTS

1.	NOTIFICATIONS (ALL LEVELS)	8					
2.	LEVEL 1 RESPONSE	11					
2.1	Mobilisation of Response Strategies						
3.	LEVEL 2/3 RESPONSE	14					
3.1	Mobilisation of Response Strategies						
4.	PRIORITY RECEPTORS						
APPE	NDIX A – CREDIBLE SPILL SCENARIOS AND HYDROCARBON INFO	RMATION					
	NDIX B - FORMS						
	11						
	12						
	13						
	14						
FORM	15	33					
FORM	l 6a	34					
FORM	1 6b	34					
FORM	17	35					
FORM	18	36					
APPE	NDIX C - 7 QUESTIONS OF SPILL ASSESSMENT	37					
APPE	NDIX D - DRIFTER BUOY DEPLOYMENT INSTRUCTIONS	38					
HYDR	NDIX E - COORDINATION STRUCTURE FOR A CONCURRENT ROCARBON SPILL IN BOTH COMMONWEALTH & STATE ERS/SHORELINES	39					
	NDIX F – WOODSIDE INCIDENT MANAGEMENT STRUCTURE						
	NDIX G – WOODSIDE LIASON OFFICER RESOURCES TO DOT						

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

NORTH-WEST AUSTRALIA 4D MARINE SEISMIC SURVEY OIL POLLUTION FIRST STRIKE PLAN

SPILL FROM VESSEL

(Note: SOPEP should be implemented in conjunction with this document)

LEVEL 1

CONTROL AGENCY: AMSA

INCIDENT CONTROLLER: VESSEL MASTER (with

response assistance from

Woodside)

LEVEL 2 & 3

CONTROL AGENCY: AMSA

INCIDENT CONTROLLER: AMSA (with response

assistance from Woodside)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS No: 1401139584 Page 5 of 43

Oil Spill Incident Levels

The most significant characteristic of the below table is considered when determining oil spill incident level or escalation potential.

Characteristic	Level 1 Indicators	Level 2 Indicators	Level 3 Indicators
General Description	Generally able to be	Generally a response is	Response may extend
	resolved within 24-48 hours.	required beyond 48 hours.	beyond weeks.
Woodside Emergency	Onsite Incident Controller	Additional support required	Includes Perth based CMT
Management (EM)/	(IC) activated. Use of ICC	from Corporate Incident	activation.
Crisis Management	support may be required.	Coordination Centre (CICC)	
Team (CMT) Activation		Duty Manager (DM).	
Number of Agencies	First-response agency and	Multi-agency response.	Agencies from across
	Incident Management Team (IMT)/		government and industry.
Environment	Isolated impacts or with	Significant impacts and	Significant area and
	natural recovery expected within weeks.	recovery may take months.	recovery may take months. Remediation required.
Economy	Business level disruption	Business failure or	Disruption to a sector.
	(i.e. Woodside).	'Channel' impacts.	
Public Affairs	Local and regional media	National media coverage.	International media
	coverage (Western		coverage.
	Australia).		
Volumes	0-10 m ³ .	10-1,000 m ³ .	>1,000 m ³ .

For guidance on credible spill scenarios and hydrocarbon characteristics refer to APPENDIX A – Credible Spill Scenarios and Hydrocarbon Information.

For Spills Entering State Waters

In the event of a spill where Woodside is the responsible party and the spill may impact State waters/shorelines, Woodside will notify the Western Australia Department of Transport (DoT).

If the spill impacts State waters/shorelines and is a Level 1, Woodside will remain the Controlling Agency. If the spill is a Level 2/3 then DoT will become the Control Agency for the response in State waters/shorelines only. DoT will appoint an Incident Controller (IC) and form a separate IMT to manage the State waters/shorelines response only. The coordination structure for a concurrent hydrocarbon spill in both Commonwealth and State waters/shorelines is shown in APPENDIX E – Coordination Structure for a Concurrent Hydrocarbon Spill in Both Commonwealth and State Waters/Shorelines.

Initially Woodside will be required to make available an appropriate number of suitably qualified persons to work in the DoT IMT (see APPENDIX G – Woodside liason officer resources to DoT). DoT's role as the Controlling Agency for Level 2 and 3 spills in State waters/shorelines does not negate the requirement for Woodside to have appropriate plans and resources in place to adequately respond or to commence the initial response actions to a spill prior to DoT establishing incident control in line with DoT Offshore Petroleum Industry Guidance Note (September 2018), Marine Oil Pollution: Response and Consultation Arrangements:

http://www.transport.wa.gov.au/mediaFiles/marine/MAC_P_Westplan_MOP_OffshorePetroleumInd Guidance.pdf

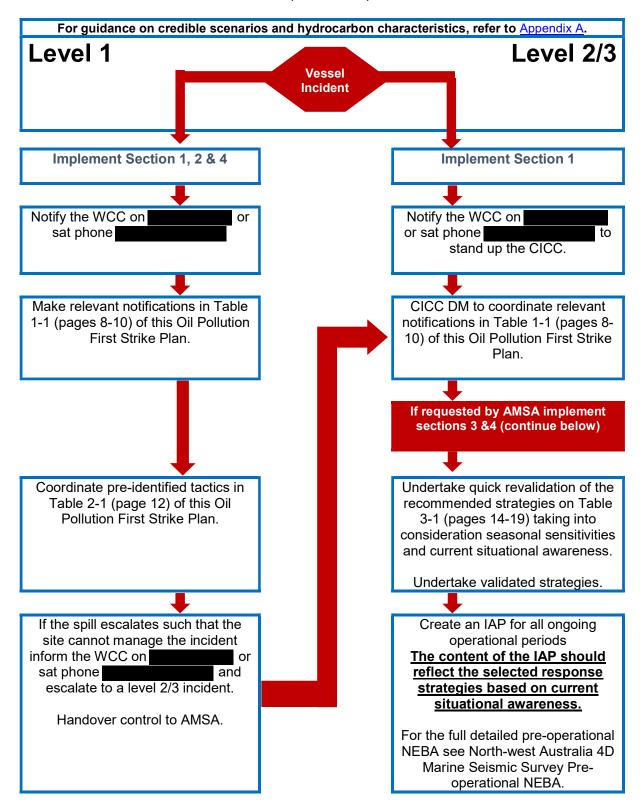
Woodside's Incident Management Structure for a Hydrocarbon Spill, including Woodside Liaison Officer's command structure within DoT can be seen at APPENDIX F – Woodside incident management structure.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS No: 1401139584 Page 6 of 43

Response Process Overview

Use the below to determine which parts of this plan are relevant to the incident.



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 7 of 43

1. NOTIFICATIONS (ALL LEVELS)

The Incident Controller or delegate must ensure the below notifications (Table 1-1) are completed within the designated timeframes.

For other environmental notifications required refer to Section 7.8 of the North-west Australia 4D Marine Seismic Survey Environment Plan.

Table 1-1: Immediate Notifications

Notification timing	Responsibility	Authority/ Company	Name	Contact Number	Instruction	Form/Template	Mark Complete (✔)
(For spills from	o be made for AL <i>a vessel the follow</i> i	L LEVELS of spill ing notifications must b	e undertaken by a	WEL representative).			
Immediately	Vessel Master	Woodside Communication Centre (WCC)	Duty Manager	or or Sat phone:	Verbally notify WCC of event and estimated volume and hydrocarbon type.	Verbal	
Within 2 hours	Woodside Site Representative (WSR)	National Offshore Petroleum Safety Environmental	Incident notification		Verbally notify NOPSEMA for spills >80L. Record notification using Initial Verbal Notification Form or equivalent and send to NOPSEMA as soon as practicable [cc to National Offshore Petroleum Titleholders Administrator (NOPTA) and Department of Mines, Industry Regulation and Safety (DMIRS)].	APPENDIX B – Forms FORM 1	
Within 3 days	WSR	- Management Authority (NOPSEMA ¹)	office		Provide a written NOPSEMA Incident Report Form as soon as practicable (no later than 3 days after notification) (cc to NOPTA and DMIRS). NOPSEMA: submissions@nopsema.gov.au NOPTA: resources@nopta.gov.au DMIRS: petreps@dmirs.wa.gov.au	APPENDIX B – Forms FORM 2	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 8 of 43

¹ Notification to NOPSEMA must be from a Woodside Representative.

Notification timing	Responsibility	Authority/ Company	Name	Contact Number	Instruction	Form/Template	Mark Complete (✔)
As soon as practicable	WSR	Woodside	Hydrocarbon Spill Preparedness (HSP) Manager		Verbally notify HSP Manager of event and estimated volume and hydrocarbon type.	Verbal	
Without delay as per protection of the Sea Act, part II, section 11(1)	Vessel Master	Australian Maritime Safety Authority (AMSA)	Response Coordination Centre (RCC)	or	Verbally notify AMSA RCC of the hydrocarbon spill. Follow up with a written Marine Pollution Report (POLREP) as soon as practicable following verbal notification.	APPENDIX B – Forms FORM 3	
As soon as practicable	CICC DM or Delegate	Department of Environment and Energy	Director of National Parks (Director)		The Director is notified in the event of oil pollution within a marine park, or where an oil spill response action must be taken within a marine park, so far as reasonably practicable, prior to response action being taken.	Verbal	
Additional Leve	CICC DM or Delegate	Australian Marine Oil Spill Centre (AMOSC)	AMOSC Duty Manager		Notify AMOSC that a spill has occurred and follow-up with an email from the IC/CICC DM, CMT Leader or Oil Spill Preparedness Manager to formally activate AMOSC. Determine what resources are required consistent with the AMOSPlan and detail in a Service Contract that will be sent to Woodside from AMOSC upon activation.	APPENDIX B – Forms FORM 4	
As soon as practicable	CICC DM or Delegate	Oil Spill Response Limited (OSRL)	OSRL Duty Manager	Singapore Office	Contact OSRL Duty Manager and request assistance from technical advisor in Perth. Send the notification form to OSRL as soon as practicable. For mobilisation of resources, send the Mobilisation Form to OSRL as soon as practicable.	APPENDIX B – Forms Notification: FORM 6a Mobilisation: FORM 6b	

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 9 of 43

Notification timing	Responsibility	Authority/ Company	Name	Contact Number	Instruction	Form/Template	Mark Complete (✔)
As soon as practicable or if spill is likely to extend into WA State waters	CICC DM or Delegate	WA Department of Transport	DOT Duty Manager		Marine Duty Manager to verbally notify DoT that a spill has occurred and request use of equipment stored in the Exmouth supply shed at Harold E Holt. Follow up with a written POLREP as soon as practicable following verbal notification. Additionally, DoT to be notified if spill is likely to extend into WA State waters. Request DoT to provide Liaison to WEL IMT.	APPENDIX B – Forms FORM 5	
As soon as practicable if there is potential for oiled wildlife or the spill is expected to contact land or waters managed by WA Department. of Biodiversity, Conservation and Attractions	CICC DM or Delegate	WA Department of Biodiversity, Conservation and Attractions (DBCA)	Duty Officer		Phone call notification	Verbal	
As soon as practicable	CICC DM or Delegate	Marine Spill Response Corporation (MSRC)	MSRC Response Manager	or	Activate the contract with MSRC (in full) for the provision of up to 30 personnel depending on what skills are required. Please note that provision of these personnel from MSRC are on a best endeavours basis and are not guaranteed.	Verbal	

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 10 of 43

2. LEVEL 1 RESPONSE

2.1 Mobilisation of Response Techniques

For the relevant hydrocarbon type, undertake quick revalidation of the recommended techniques and pre-identified tactics indicated with a 'Yes' in

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 2-1. Undertake all validated pre-identified tactics immediately. These tactics should be carried out using the associated plan identified under Table 2-1 Operational Plan column.

All response techniques and pre-identified tactics have been identified from the pre-operational NEBA presented in the North-west Australia 4D Marine Seismic Survey Environment Plan Appendix D: Oil Spill Preparedness and Response Mitigation Assessment.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS No: 1401139584 Page 12 of 43

Table 2-1: Level 1 Response Summary

Response	Hydrocarbon Type	Pre- Identified Tactics	Responsible	ALARP Commitment	Complete ✓	Link to Operational Plans for notification numbers and actions
Technique	Marine Diesel					
Vessel Shipboard Oil Pollution Emergency Plan (SOPEP)	Yes	Vessel master to activate Shipboard Oil Pollution Emergency Plan (SOPEP) when a pollution incident has occurred or is likely to occur.	Vessel Master/ Officers	Refer vessel specific SOPEP		Refer vessel specific SOPEP
Monitor and Evaluate (Operational Monitoring)	Yes	If a surface sheen is visible from the facility deploy the satellite tracking buoy within 2 hours.	WSR	Tracking buoy deployed within 2 hours		Surveillance and Reconnaissance to Detect Hydrocarbons and Resources at Risk (OM02) of The Operational Monitoring Operational Plan. Deploy tracking buoy in accordance with APPENDIX D – Tracking Buoy Deployment Instructions.

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS No: 1401139584

Page 13 of 43

3. LEVEL 2/3 RESPONSE

3.1 Mobilisation of Response Strategies

For the relevant hydrocarbon type, undertake quick revalidation of the recommended techniques and pre-identified tactics indicated with a 'Yes' in

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 3-1. Undertake all validated pre-identified tactics immediately. These tactics should be carried out using the associated plan identified Table 3-1 under Table 3-1 Operational Plan column.

All response techniques and pre-identified tactics have been identified from the pre-operational NEBA presented in the North-west Australia 4D Marine Seismic Survey Environment Plan Appendix D: Oil Spill Preparedness and Response Mitigation Assessment.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Table 3-1: Level 2/3 Response Summary

Response Technique	Hydrocarbon Type	Pre- Identified Tactics	Responsible	ALARP Commitment Summary	Complete 🗸	Link to Operational Plans for notification numbers and actions
recimique	Marine Diesel					
Vessel Shipboard Oil Pollution Emergency Plan (SOPEP)	Yes	Vessel master to activate Shipboard Oil Pollution Emergency Plan (SOPEP) when a pollution incident has occurred or is likely to occur.	Vessel Master/ Officers	Refer vessel specific SOPEP.		Refer vessel specific SOPEP.
Monitor and	Yes	If a surface sheen is visible from the facility deploy the satellite tracking buoy within 2 hours.	Operations	Tracking buoy deployed within 2 hours.		Surveillance and Reconnaissance to Detect Hydrocarbons and Resources at Risk (OM02) of The Operational Monitoring Operational Plan. Deploy tracking buoy in accordance with APPENDIX D — Tracking Buoy Deployment Instructions.
Monitor and Evaluate (Operational Monitoring)	Yes	Undertake initial modelling using the Rapid assessment oil spill tool Woodside Maps (Emergency Response) and weathering fate analysis using ADIOS (or refer to the hydrocarbon information in APPENDIX A — Credible Spill Scenarios And Hydrocarbon Information).	Intelligence or Environment	Initial modelling within 6 hours using the Rapid Assessment Tool. Detailed modelling within 4 hours of APASA receiving information from Woodside.		Predictive Modelling of Hydrocarbons to Assess Resources at Risk (OM01) of The Operational Monitoring Operational Plan.
	Yes	Send Oil Spill Trajectory Modelling (OSTM) form (APPENDIX B — Forms, FORM 7) to RPS APASA.	Intelligence			
	Yes	Instruct Aviation Duty Manager to commence aerial observations in daylight hours. Aerial surveillance observer to	Logistics – Aviation	2 trained aerial observers available by day 1. 1 aircraft available for two sorties per day from day 1.		

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS No: 1401139584 Page 16 of 43

	complete log in APPENDIX B — Forms, FORM 8.		Observer to compile report during flight and made available to the IMT within 2 hours of landing after each sortie. Unmanned Aerial Vehicles/ Systems (UAV/UASs) to support tactics and as contingency if required.	
Yes	The Intelligence Duty Manager should be instructed to stand up. Kongsberg Satellite Services (KSAT) to provide satellite imagery of the spill (email emergency@ksat.no and call	Intelligence	Service provider will confirm availability of an initial acquisition within 2 hours. First image received with 24 hours of Woodside confirming the proposed acquisition plan. Service provider to submit report to Woodside per image with polygon of any possible or identified slick(s) with metadata. Data received to be uploaded into Woodside Common Operating Picture (COP daily)	
Yes	Consider the need to mobilise resources to undertake water quality monitoring (OM03).	Planning or Environment	2 specialists from resource pool deployed within 23 hours. Daily reports will be provided to IMT.	Detecting and Monitoring for the Presence and Properties of Hydrocarbons in the Marine Environment (OM03) of The Operational Monitoring Operational Plan.
Yes	Consider the need to mobilise resources to undertake pre-emptive assessment of sensitive receptors at risk (OM04).	Planning or Environment	2 specialists from resource pool deployed within 23 hours. Daily reports will be provided to IMT.	Pre-emptive Assessment of Sensitive Receptors (OM04) of The Operational Monitoring Operational Plan.
Yes	Consider the need to mobilise resources to undertake shoreline assessment surveys (OM05).	Planning or Environment	2 specialists from resource pool deployed within 23 hours for each of the Response Protection Areas (RPA) with predicted impacts at greater than 100g/m². Shoreline Clean-up Assessment Team (SCAT) reports provided to IMT daily.	Shoreline Assessment (OM05) of The Operational Monitoring Operational Plan.

Controlled Ref No: W8000AF1401139584 Revision: 0

evision: 0 Native file DRIMS No: 1401139584

Page 17 of 43

				Shoreline access routes with the least environmental impact identified and selected by specialist in SCAT operations.	
Subsea Dispersant	No	This strategy is not relevant for surface spills.			
Surface Dispersant	No	Dispersant application is not considered an appropriate response strategy for this activity as described in the North-west Australia 4D Marine Seismic Survey Environment Plan Appendix D (Section 4.2 of the Woodside's Oil Spill Preparedness and Response Mitigation Assessment).			
Mechanical Dispersion	No	This strategy is not recommended in an open ocean environment where wind and wave action are likely to deliver similar advantages.			
Containment and Recovery	No	This strategy is not recommended for marine diesel and weathering data shows rapid spreading, thinning and evaporation which will render containment and recovery operations ineffective.			
In-situ Burning	No	This strategy is not recommended due to prevailing met ocean conditions which limits its feasibility in the region and the health and safety risks for response personnel associated with the containment and subsequent burning of hydrocarbons.			
Shoreline Protection and Deflection	No	This strategy is not recommended for marine diesel and weathering data shows rapid spreading, thinning and evaporation which will render shoreline protection and deflection operations ineffective at first impact.			
Shoreline Clean Up	Yes	Equipment from Woodside, AMOSC and AMSA Western Australian Stockpiles and relevant personnel mobilised.	Logistics and Planning	Deployment of 1 shoreline clean- up team to compromised RPAs within 24 hours.	Tactical Response Plans Logistics to download immediately and follow steps

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS No: 1401139584 Page 18 of 43

		Consideration of mobilisation of interstate/international shoreline clean-up equipment and relevant personnel (i.e. OSRL).		Upon request from IMT, mobilise and deploy 1 shoreline clean-up by Day 2 and 3 shoreline clean-up team by Day 3 to each site where operational monitoring predicts contact by accumulation >100 g/m².	Shoreline Clean-up Operational Plan Logistics to download immediately and follow steps
		Mobilise security provider as per security support plan.			Land Based Security Support Plan
Waste Management	Yes	Contract with waste management services for transport, removal, treatment and disposal of waste. Waste management services available and employed during response. All shorelines zoned and marked before clean-up operations commence.	Logistics and Planning	Contract with waste management services for transport, removal, treatment and disposal of waste. Access to at least 40-200 m³ of solid waste storage available within 24 hours. Then access to an additional 100-500 m³ of solid waste storage within an additional 24 hours. Waste management to be conducted in accordance with Australian laws and regulations. Recovered hydrocarbons and wastes will be transferred to licensed treatment facility for reprocessing or disposal.	
Oiled Wildlife Response	Yes	If oiled wildlife is a potential impact, request AMOSC to mobilise containerised oiled wildlife first strike kits and relevant personnel. Refer to relevant Tactical Response Plan for potential wildlife at risk. Mobilise AMOSC Oiled Wildlife Containers. Consider whether additional equipment is required from local suppliers.	Logistics and Planning	Contracted capability to treat 100 individual fauna. Facilities for oiled wildlife rehabilitation are operational 24/7 Vessels used in hazing/preemptive capture to approach fauna at slow speeds. Seek advice and assistance from the Oiled Wildlife Advisor from the DBCA and in accordance with the processes and methodologies described in the WA OWRP and the relevant regional plan.	Oiled Wildlife Response Operational Plan

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS No: 1401139584 Page 19 of 43

Scientific Monitoring (Type II)	Yes	Notify Woodside science team of spill event.	Environment	Activate a scientific monitoring program (SMP) following a Level 2 spill.	Oil Spill Scientific Monitoring Programme – Operational Plan
Incident Management System		Operational NEBA	Environment	Confirm that the response strategies adopted at the time of acceptance remain appropriate to reduce the consequences of the spill within 24 hours. Record the information and data from operational and scientific monitoring activities used to inform the NEBA	
	Yes	Stakeholder engagement	Corporate Affairs	Prompt and record all notifications (including government notifications) for stakeholders in the region are made. In the event of a response, identification of relevant stakeholders will be re-assessed throughout the response period	
		Personnel required to support any response	IMT	Immediately activate the IMT with personnel filling all the identified roles. Collect and interpret information from the scene of the incident to determine support requirements to the site-based IMT, develop an Incident Action Plan (IAP) and assist with the execution of that plan	Incident Action Plan

NOTE: Any first strike commitments made in the EP should be reflected in the 'Pre-identified Tactics' column of the above table. NOTE: Any commitments, that need to be commenced within 48 hours, that are made in the Mitigation Assessment Document should be reflected in the Timing to meet ALARP Commitment column.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 20 of 43

4. PRIORITY RECEPTORS

Note: DoT are the Control Agency to respond to all sites in a Level 2/3 spill into State waters/ shorelines.

Action: Provide DoT with all relevant Tactical Response Plans for any locations predicted to be contacted.

Based on hydrocarbon spill risk modelling results the sensitive receptors outlined Table 4-2 are identified as Response Protection Area (RPA), as they have the potential to be contacted by any hydrocarbon at or above threshold levels within 48 hours of a spill. The initial impact will be at 24 hours (Day 2) at Ningaloo Coast North and World Heritage Area (WHA) (first shoreline contact totals 31 m³).

Please note that impact thresholds (10 g/m² surface hydrocarbon concentration, 100 g/m² shoreline accumulation, and 500 ppb entrained hydrocarbon concentration) are used to determine the Environment that May Be Affected (EMBA) identified in the Environment Plan and are lower than response thresholds (Table 4-1).

Table 4-1 Response Thresholds

Surface Hydrocarbon (g/m²)	Description
>10	Predicted minimum threshold for commencing operational monitoring
50	Predicted minimum floating oil threshold for containment and recovery and surface dispersant application ²
100	Predicted optimum floating oil threshold for containment and recovery and surface dispersant application
100	Predicted minimum shoreline accumulation threshold for shoreline assessment operations
250	Predicted minimum threshold for commencing shoreline clean-up operations

Table 4-2 Receptors for Priority Protection

Receptor	Distance and Direction from North-west Australia 4D Marine Seismic Survey campaign	Threshold triggered and recommended strategy	Tactical Response Plans (also available within the Data Directory)
Ningaloo Coast North and WHA	14.2 km south.	Threshold: Shoreline accumulation threshold ≥100 g/m² Strategies: Monitor and	Mangrove BayTurquoise BayYardie CreekMuiron Islands
		Evaluate (Operational Monitoring)	Jurabi to Lighthouse Beaches

Figure 4-1 illustrates the location of regional sensitive receptors in relation to Area C of the Northwest Australia 4D Marine Seismic Survey Campaign and identifies priority protection areas.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 13 of 40

² At 50g/m² containment and recovery and surface dispersant application operations are not expected to be particularly effective. This threshold represents a conservative approach to planning response capability and displaying the spread of surface oil.

Consideration should be given to other stakeholders (including mariners) in the vicinity of the spill location. Table 4-3 indicates the assets within the vicinity of the North-west Australia 4D Marine Seismic Survey operational area.

Preliminary Hydrocarbon spill modelling results indicate the sensitive receptors listed below have the potential to be contacted by hydrocarbons above threshold concentrations beyond 48 hours of a spill:

Ningaloo Coast North and WHA (entrained hydrocarbon concentrations ≥500 ppb).

Tactical Response Plans for a number of these locations can be accessed via the Oil Spill Portal – Tactical Response Plans and are also listed in

Table 3-1 of this document.

Oil Spill Trajectory Modelling (as per OM02) specific to the spill event will be required to determine the regional sensitive receptors to be contacted beyond 48 hours of a spill.

Table 4-3 Assets in the vicinity of the North-west Australia 4D Marine Seismic Survey operational area.

Asset	Distance and Direction from North- west Australia 4D Marine Seismic Survey campaign	Operator
Ngujima-Yin FPSO	25km south	Woodside
Ningaloo Vision FPSO	29km south	Santos
Pyrenees Venture FPSO	15km south-west	ВНР

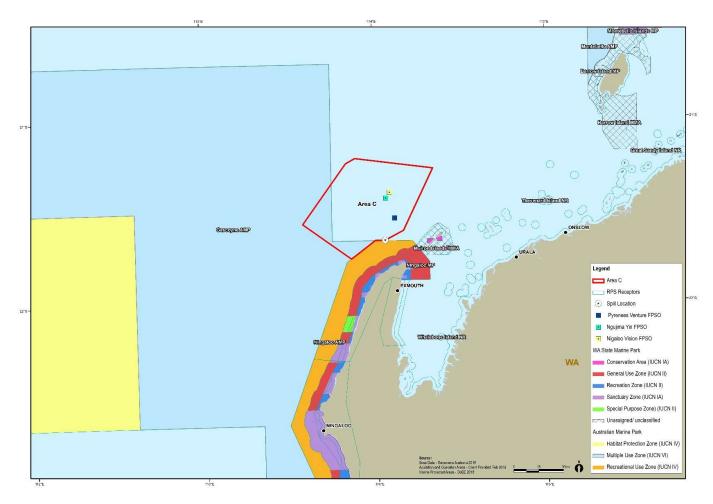


Figure 4-1 – Regional Sensitive Receptors Area C, North-west Australia 4D Marine Seismic Survey

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS No: 1401139584

Page 24 of 43

APPENDIX A – CREDIBLE SPILL SCENARIOS AND HYDROCARBON INFORMATION

For more detailed hydrocarbon information see the Hydrocarbon Data Directory

Credible Spill Scenarios

Scenario	Product	Maximum Volumes	Suggested ADIOS2 Analogue*
Breach of support vessel fuel tanks due to collision with seismic vessel	Marine Diesel	105 m ³	Diesel Fuel Oil (Southern USA 1) API of 37.2
Breach of seismic vessel fuel tanks due to collision with support vessel	Marine Diesel	190 m ³	Diesel Fuel Oil (Southern USA 1) API of 37.2
Breach of fuel tanks due to project vessel-other vessel collision including commercial shipping/ fisheries	Marine Diesel	190 m ³	Diesel Fuel Oil (Southern USA 1) API of 37.2
Partial or total failure of a bulk transfer hose or fittings during bunkering, due to operational stress or other integrity issues	Marine Diesel	<200 L	Diesel Fuel Oil (Southern USA 1) API of 37.2
Partial or total failure of a bulk transfer hose or fittings during bunkering, combined with a failure in procedure to shutoff fuel pumps	Marine Diesel	8 m ³	Diesel Fuel Oil (Southern USA 1) API of 37.2

^{*}Initial screening of possible ADIOS2 analogues was done by considering hydrocarbons with similar APIs. Suggested selection was based on the closest distillation cut to WEL hydrocarbon. Only hydrocarbons with distillation cuts that showed results for >380°C were included in selection process.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 25 of 43

Marine Diesel (Group 2 Oil)

Marine diesel is a mixture of volatile and persistent hydrocarbons with low proportions of highly volatile and residual components. In general, about 6% of the oil mass should evaporate within the first 12 hours (BP < 180 °C); a further 35% should evaporate within the first 24 hours (180 °C < BP < 265 °C); and a further 54% should evaporate over several days (265 °C < BP < 380 °C). Approximately 5% of the oil is shown to be persistent. The aromatic content of the oil is approximately 3%.

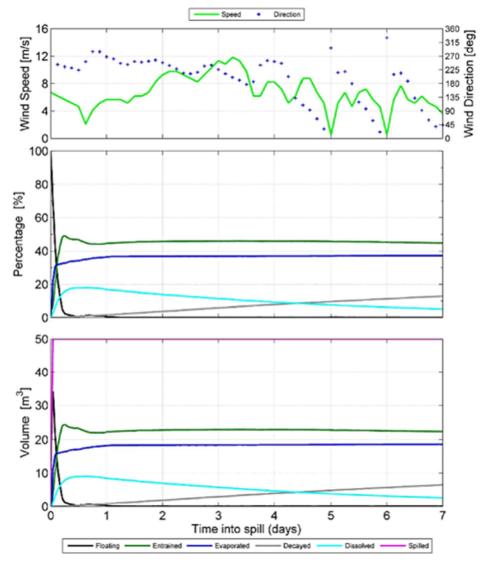


Figure A-1 Mass balance plot representing, as proportion (middle panel) and volume (bottom panel), the weathering of marine diesel spilled onto the water surface as a one-off release (50 m³ over 1 hour) and subject to variable wind at 27 °C water temperature and 25 °C air temperature.

Source: Data available from the APASA oil database (Diesel Fuel Oil (Southern USA 1997)). NOTE: This information is provided as guidance only. Spill event OSTM should be sought.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

APPENDIX B - FORMS

Form No.	Form Name	Link (if available)
1	Record of Initial Verbal Notification to NOPSEMA Template	<u>Link</u>
2	NOPSEMA Incident Report Form	<u>Link</u>
3	Marine Pollution Report (POLREP – AMSA)	<u>Link</u>
4	AMOSC Service Contract	<u>Link</u>
5	Marine Pollution Report (POLREP – DoT)	Link
6a	OSRL Initial Notification Form	<u>Link</u>
6b	OSRL Mobilisation Activation Form	<u>Link</u>
7	APASA Oil Spill Trajectory Modelling Request	<u>Link</u>
8	Aerial Surveillance Observer Log	<u>Link</u>

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Record of initial verbal notification to NOPSEMA

VVOOdsi	ue		
(NOPSEMA p	oh: (08) 6461 7090)		
Date of call			
Time of call			
Call made by			
Call made to			

intormation to	o be provided to NOPSEMA:	
Date and Time of		
incident/time		
caller became		
aware of		
incident		
Details of incident	1. Location	
	2. Title	
	3. Hydrocarbon source	
	□ Platform	
	□ Pipeline	
	□ FPSO	
	□ Exploration drilling	
	□ Well	
	□ Other (please specify)	
	4. Hydrocarbon type	
	5. Estimated volume of hydrocarbon	
	6. Has the discharge ceased?	
	7. Fire, explosion or collision?	
	8. Environment Plan(s)	
	9. Other Details	
İ		

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 28 of 43

Actions taken to avoid or mitigate environmental impacts	
Corrective actions taken or proposed to stop, control	
or remedy the incident	

After the initial call is made to NOPSEMA, please send this record as soon as practicable to:

1. NOPSEMA <u>submissions@nopsema.gov.au</u>

2. NOPTA <u>resources@nopta.gov.au</u>

3. DMP <u>petroleum.environment@dmp.wa.gov.au</u>

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

[insert NOPSEMA Incident Report Form when printing]
Link

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 30 of 43

[insert Marine Pollution Report (POLREP – AMSA) when printing]
Link

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

[insert AMOSC Service Contract when printing]
Link

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 32 of 43

[insert Marine Pollution Report (POLREP - DoT) when printing]
Link

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 33 of 43

FORM 6a

[insert OSRL Initial Notification Form when printing]
Link

FORM 6b

[insert OSRL Mobilisation Activation Form when printing]
Link

[insert APASA Oil Spill Trajectory Modelling Request when printing]
Link

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

[insert Aerial Surveillance Observer Log when printing]
Link

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 36 of 43

APPENDIX C - 7 QUESTIONS OF SPILL ASSESSMENT

WHAT IS IT? Oil Type/name Oil properties Specific gravity / viscosity / pour point / asphphaltines / wax content / boiling point	
WHERE IS IT? Lat/Long Distance and bearing	
HOW BIG IS IT? Area Volume	
WHERE IT IS GOING? Weather conditions Currents and tides	
WHAT IS IN THE WAY? Resources at risk	
WHEN WILL IT GET THERE? Weather conditions Currents and tides	
WHAT'S HAPPENING TO IT? Weathering processes	

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 37 of 43

APPENDIX D - TRACKING BUOY DEPLOYMENT INSTRUCTIONS

(Insert instructions when printing)

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

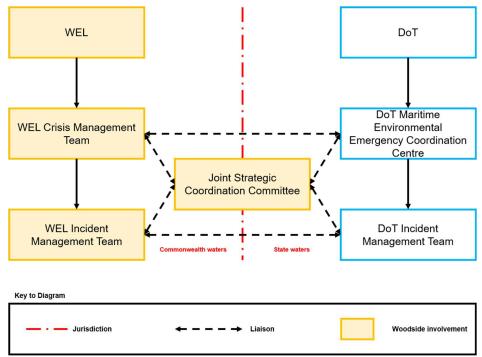
Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 38 of 43

APPENDIX E – COORDINATION STRUCTURE FOR A CONCURRENT HYDROCARBON SPILL IN BOTH COMMONWEALTH AND STATE WATERS/SHORELINES³



The Control Agency for a hydrocarbon spill in Commonwealth waters/shorelines resulting from an offshore petroleum activity is Woodside (the Petroleum Titleholder). The Control Agency for a hydrocarbon spill in State waters/shorelines resulting from an offshore petroleum activity is DoT. DoT will appoint an Incident Controller and form a separate IMT to only manage the spill within State waters/shorelines.

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

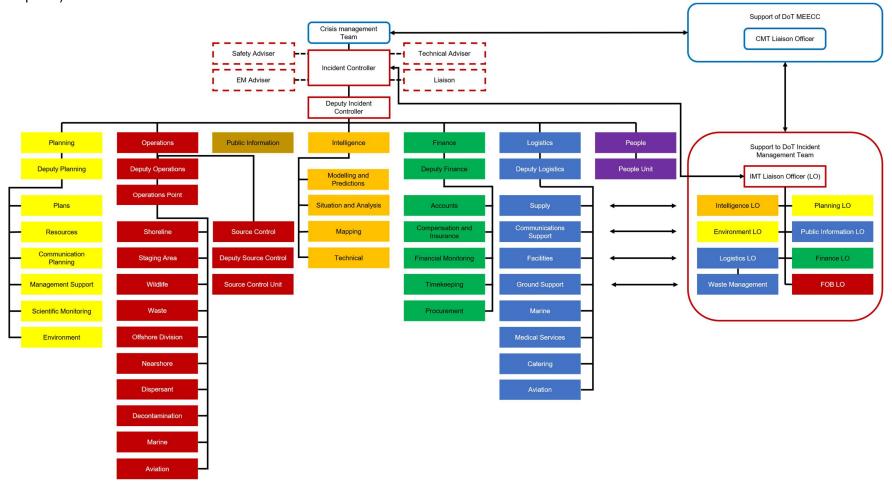
Native file DRIMS No: 1401139584

Page 39 of 43

³ Adapted from WA DoT Offshore Petroleum Industry Guidance Note, Marine Oil Pollution: Response and Consultation Arrangements September 2018. Note: For full structure up to Commonwealth Cabinet/Minister refer to Marine Oil Pollution: Response and Consultation Arrangements Section 6.5, Figure 4.

APPENDIX F - WOODSIDE INCIDENT MANAGEMENT STRUCTURE

Woodside Incident Management Structure for Hydrocarbon Spill (including Woodside Liaison Officers Command Structure within DoT IMT if required).



This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584 Revision: 0 Native file DRIMS No: 1401139584

Page 40 of 43

APPENDIX G - WOODSIDE LIASON OFFICER RESOURCES TO DOT

Once DoT activates a State waters/shorelines IMT, Woodside will make available the following roles to DoT.

Area	WEL Liaison Role	Personnel Sourced from ⁴ :	Key Duties	#
DoT MEECC	CMT Liaison Officer	CMT Duty Managers Roster	 Provide a direct liaison between the CMT and the MEECC. Facilitate effective communications and coordination between the CMT and State Maritime Environment Emergency Coordinator (SMEEC). Offer advice to SMEEC on matters pertaining to Petroleum Titleholder (PT) crisis management policies and procedures. 	1
DoT IMT Incident Control	WEL IMT Liaison Officer	CICC Duty Managers Reserve List Roster	 Provide a direct liaison between the PT IMT and DoT IMT. Facilitate effective communications and coordination between the PT IC and the DoT IC. Offer advice to the DoT IC on matters pertaining to PT incident response policies and procedures. Offer advice to the Safety Coordinator on matters pertaining to PT safety policies and procedures, particularly as they relate to PT employees or contractors operating under the control of the DoT IMT. 	1
DoT IMT Planning- Intelligence/ Mapping	Intelligence Liaison Officer	AMOSC Staff Member or AMOSC Core Group	 Facilitate the provision of relevant modelling and predications from the PT IMT. Assist in the interpretation of modelling and predictions originating from the PT IMT. Facilitate the provision of relevant situation and awareness information originating from the DoT IMT to the PT IMT. Facilitate the provision of relevant mapping from the PT IMT. Assist in the interpretation of mapping originating from the PT IMT. Facilitate the provision of relevant mapping originating from the DoT IMT to the PT IMT. 	1
DoT IMT Planning-Plans/ Resources	Planning Liaison Officer	AMOSC Core Group/CICC Planning Coordinator Reserve List and Planning Group 3	 Facilitate the provision of relevant IAP and sub plans from the PT IMT. Assist in the interpretation of the PT OPEP from the PT. Assist in the interpretation of the PT IAP and sub plans from the PT IMT. Facilitate the provision of relevant IAP and sub plans originating from the DoT IMT to the PT IMT. Assist in the interpretation of the PT existing resource plans. Facilitate the provision of relevant components of the resource sub plan originating from the DoT IMT to the PT IMT. 	1
DoT IMT	Environment al Liaison Officer	CMT Environmental	 Assist in the interpretation of the PT OPEP and relevant TRP plans. Facilitate in requesting, obtaining and interpreting environmental monitoring data originating from the PT IMT. 	1

⁴ See Combined CICC, KICC, CMT roster & Preparedness Schedule / AMOSC Service Contract

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 41 of 43

Planning- Environment		FST Duty Managers Roster	Facilitate the provision of relevant environmental information and advice originating from the DoT IMT to the PT IMT.	
DoT IMT Public Information- Media/ Community Engagement	Public Information and Media Liaison Officer	CMT Reputation {Media} FST Duty Manager Roster	 Facilitate effective communications and coordination between the PT and DoT media teams. Assist in the release of joint media statements and conduct of joint media briefings. Assist in the release of joint information and warnings through the DoT Information & Warnings team. Offer advice to the DoT Media Coordinator on matters pertaining to PT media policies and procedures. Facilitate effective communications and coordination between the PT and DoT Community Liaison teams. Assist in the conduct of joint community briefings and events. Offer advice to the DoT Community Liaison Coordinator on matters pertaining to the PT community liaison policies and procedures. Facilitate the effective transfer of relevant information obtained from through the Contact Centre to the PT IMT. 	1
DoT IMT Logistics-Supply	Logistic Liaison Officer	CMT Services FST Logistics Team 2 Roster	 Facilitate the acquisition of appropriate supplies through the PTs existing OSRL, AMOSC and private contract arrangements. Collects Request Forms from DoT to action via PT IMT. 	1
DoT IMT Logistics-Waste	Waste Managemen t Liaison Officer	CMT Services FST Logistics Team 2 and WEL Waste Contractor Roster	 Facilitate the acquisition of appropriate services and supplies through the PTs existing private contract arrangements related to waste management. Collects Request Forms from DoT to action via PT IMT. 	1
DoT IMT Finance- Accounts/ Financial Monitoring	Finance Liaison Officer	CICC Finance Coordinator Roster	 Assist the DoT Finance Officer in time keeping and the setting up and payment of accounts for those services acquired through the PTs existing OSRL, AMOSC and private contract arrangements. Facilitate the communication of financial monitoring information to the PT to allow them to track the overall cost of the response. 	1
DoT FOB Operations Command	FOB Liaison Officer	AMOSC Core Group	 Provide a direct liaison between the PT FOB and DoT FOB. Facilitate effective communications and coordination between the PT FOB Operations Commander and the DoT FOB Operations Commander. Offer advice to the DoT FOB Operations Commander on matters pertaining to PT incident response policies and procedures. Assist the Senior Safety Officer deployed in the FOB in the performance of their duties, particularly as they relate to PT employees or contractors. Offer advice to the Senior Safety Officer deployed in the FOB on matters pertaining to PT safety policies and procedures. 	1
Total Woodsi	de Personnel In	itial Requirement to D	oT IMT	10

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 42 of 43

DOT LIAISON OFFICER RESOURCES TO WOODSIDE

Once DoT activates a State waters/shorelines IMT, DoT will make available the following roles to Woodside.

Area	DoT Liaison Role	Personnel Sourced from:	Key Duties	#
WEL CMT	DoT Liaison Officer	DoT	 Provide a direct liaison via CICC HSP Advisor between the CMT and the MEECC. Facilitate effective communications and coordination between the CMT Leader and SMEEC. Offer advice to CMT Leader on matters pertaining to DoT and wider government emergency management policies and procedures. Provide a direct liaison between the PT IMT and DoT IMT. Facilitate effective communications and coordination between the PT IC and the DoT IC. Offer advice to the PT IC on matters pertaining to DoT and wider government incident response policies and procedures. Facilitate requests for specific tasks from PT IMT related to Aviation and Waste Management. 	1
WEL Reputation FST (Media Room)	DoT Media Liaison Officer	DoT	 Provide a direct liaison via Reputation FST Media Team between the PT Media team and DoT IMT Media team. Facilitate effective communications and coordination between the PT and DoT media teams. Assist in the release of joint media statements and conduct of joint media briefings. Assist in the release of joint information and warnings through the DoT Information & Warnings team. Offer advice to the PT Media Coordinator on matters pertaining to DoT and wider Government media policies and procedures. 	1
Total DoT Person	nel Initial Requireme	ent to Woodside		2

This document is protected by copyright. No part of this document may be reproduced, adapted, transmitted, or stored in any form by any process (electronic or otherwise) without the specific written consent of Woodside. All rights are reserved.

Controlled Ref No: W8000AF1401139584

Revision: 0

Native file DRIMS No: 1401139584

Page 43 of 43