Catcher Development Drilling OPEP

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Approved by:	[redacted]	[redacted]	23/04/2015

Revision Record		
Revision No.	**Date of Revision**	**Description of Revision**
B01	23/04/2015	Final for approval by DECC
B02	25/6/2015	Final issued for use

AMENDMENT RECORD

All amendments to this document shall be recorded on the Amendment Record sheet below.
No changes to this document are to be made without approval from the document Approver.

Date	Incorporated By	Version	Section	Description

Catcher Development Drilling

Oil Pollution Emergency Plan

Responder Quick Reference Guide

Op 1. Offshore Response Action Plan

Ensco OIM should use the Offshore On-Scene Commander Checklist to navigate this OPEP.

Ensco 100 OIM	**Op 1.1 Response Action Plan**

Op 2. Onshore Response Action Plan

HSEQ Advisor should ensure the following checklists within this OPEP are distributed to the appropriate EMT Member.

In the event that DECC mobilise, additional checklists can be found in Op 2.1

HSEQ Advisor	**Op 2.1.1 HSEQ Advisor Checklist**
Emergency Co-ordinator	**Op 2.1.2 Emergency Co-ordinator Checklist**
Duty Manager	**Op 2.1.3 Duty Manager Checklist**

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Document Management and Document Control Procedure

Oil Pollution Emergency Plans (OPEPs) prepared by or on behalf of Premier Oil UK Limited (hereinafter referred to as "Premier" or 'Premier Oil') are controlled documents. All document holders, detailed within the distribution list, are assigned a specific copy number.

This document will be subject to review on a 6 month basis and updated as necessary by Premier.

This document will:

- Ensure compliance with Regulatory requirements and current industry practice;
- Reflect exercise / audit findings and recommendations;
- Include changes to operational activity and procedures;
- Remove any activities which are, or have, become obsolete;
- Incorporate current contact details.

This document has an approved lifespan of five years from the date of submission to DECC and it must be submitted in its entirety for re-approval 2 months before that time. It is the responsibility of the registered copy holder to maintain the accuracy of this document. All updates must be promptly inserted and acknowledged by signing the document transmittal page and returning a copy to the document management service provider upon receipt.

Department of Energy & Climate Change (DECC) - Letter of Approval

As approved under the Merchant Shipping (Oil Pollution Preparedness, Response and Co-Operation Convention) Regulations 1998 as amended & the Offshore Installations (Emergency Pollution Control) Regulations 2002.

DECC Reference Number: 15005

THE MERCHANT SHIPPING (OIL POLLUTION PREPAREDNESS, RESPONSE AND CO-OPERATION CONVENTION) REGULATIONS 1998

THE OFFSHORE INSTALLATIONS (EMERGENCY POLLUTION CONTROL) REGULATIONS 2002

APPROVAL OF OIL POLLUTION EMERGENCY PLAN

Pursuant to the above-mentioned Regulations, the Secretary of State hereby approves the **Premier Oil UK Limited, Catcher Development Drilling** oil pollution emergency plan which was submitted by **Petrofac** and received by the Department on **27 April 2015** and updated on **19 June 2015.**

For and on behalf of the Secretary of State

Department of Energy & Climate Change (DECC) - Control Sheet

List of Copy Holders

Copy Number	Company	Position
1	DECC Offshore Environment & Decommissioning	Offshore Environmental Inspectorate
2	MCA – MRCC Aberdeen	Operations Officer
3	JNCC	Offshore Industries Advisor
4	Marine Scotland	Duty Officer for Spill Response
5	Premier Oil UK Limited	HSES Manager
6		Operations Manager
7		Facilities Project Manager
8	Premier Oil Plc	Corporate HSES Manager
9		HSE Manager
10	ENSCO	ENSCO 100 Offshore Installation Manager (OIM) (Offshore)
11		Ensco plc (Onshore)
12	Petrofac	ERSC – Blaikies Quay
13		Copy to ERSC - Bridgeview
14		Copy to ERSC – OCU
15	Catcher Standby Vessel	Vessel Master
16		Relief Vessel Master
17	Oil Spill Response Limited (OSRL)	Operations Room

Glossary

Name	Description
BAOAC	BONN Agreement Oil Appearance Code
BBLS	Barrels of Oil
BOP	Blowout Preventer
BOPD	Barrels of Oil per Day
CERT	Corporate Emergency Management Team
CGLO	Coastguard Liaison Officer
CMT	Crisis Management Team
CPSO	Counter Pollution Salvage Officer
CRO	Control Room Operator
DECC	Department of Energy and Climate Change
DEFRA	Department for Environment, Fisheries and Rural Affairs
DfT	Department for Transport
DSV	Diving Support Vessel
EA	Environment Agency
EMR	Emergency Management Room
EMT	Emergency Management Team
EOM	Emergency Operations Manager
EPC	Offshore Installations (Emergency Pollution Control) Regulations 2002
ERP	Emergency Response Plan
ERSC	Emergency Response and Service Centre
ERRV	Emergency Response & Rescue Vessel
ETA / D	Estimated Time of Arrival / Departure
Flt	Flight
HMCG	HM Coastguard
HSE	Health and Safety Executive
HSEQ	Health, Safety, Environment and Quality Advisor
ICES	International Council for the Exploration of the Sea
ITOPF	International Tanker Owners Pollution Federation
JNCC	Joint Nature Conservation Committee
LA	Local Authority
LMRP	Lower Marine Riser Package
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
MCA	Maritime and Coastguard Agency
MMO	Marine Management Organisation
mmscf/d	Million standard cubic feet per day
MODU	Mobile Offshore Drilling Unit
MRC	Marine Response Centre
MRCC	Marine Rescue Coordination Centre
MS	Marine Scotland
NCMPA	Nature Conservation Marine Protected Area
MCZ	Marine Conservation Zone
NCP	National Contingency Plan
NPI	Non-Production Installation
NE	Natural England

NEBA	Net Environmental Benefit Approach
NORBRIT	The Norway and UK Joint Contingency Plan – joint counter pollution operations 50 miles either side of the median line
OBM	Oil Based Mud
OCU	Operations Control Unit
OH	Office Hours
OOH	Out of Office Hours
OIL	*OPRC Regulations:* Petroleum in any form including crude oil, fuel oil, sludge, oil refuse and refined products *Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005 (OPPC) as amended:* liquid hydrocarbon or substitute liquid hydrocarbon, including dissolved or dispersed hydrocarbons or substitute hydrocarbons that are not normally found in the liquid phase at standard temperature and pressure, whether obtained from plants or animals, or mineral deposits or by synthesis. *Offshore Chemicals Regulations 2002 (OCR) as amended:* Hydrocarbon chemicals, and substitute hydrocarbon chemicals, controlled under OCR.
OIM	Offshore Installation Manager (includes Platform Manager)
Op	Operational Section
OPEP	Oil Pollution Emergency Plan
OPOL	The Offshore Pollution Liability Association
OPPC	Offshore Petroleum Activities (Oil Pollution Prevention & Control) Regulations 2005
OPRC	The Merchant Shipping (Oil Pollution Preparedness & Response Co-operation Convention) Regulations 1998
OSC	On-Scene Commander
OSCAR	Oil Spill Contingency and Response Modelling System
OSRL	Oil Spill Response Limited
PFEER	Prevention of Fire, Explosion and Emergency Response Regulations
POB	Personnel on Board
PON	Petroleum Operations Notice
SAC	Special Area of Conservation
SCM	Standard Cubic Metre
SEPA	Scottish Environmental Protection Agency
SG	Specific Gravity
SMPEP	Shipboard Marine Pollution Emergency Plan (applies to all vessels >150 GRT carrying noxious liquid substances)
SNCA	Statutory Nature Conservation Agency
SNH	Scottish Natural Heritage
SOPEP	Shipboard Oil Pollution Emergency Plan (all oil tankers >150 GRT and vessels >400 GRT must carry a SOPEP onboard)
SOSREP	Secretary of State Representative
SRC	Shoreline Response Centre
SPA	Special Protection Area
SSIV	Subsea Isolation Valve
TOOPEP	Temporary Operations Oil Pollution Emergency Plan
UKCS	United Kingdom Continental Shelf
VOCs	Volatile Organic Compounds
VOO	Vessel of Opportunity
WIV	Well Intervention Vessel
WSV	Well Servicing Vessel (includes DSV and WIV)
WWCI	Wild Well Control Inc.

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OPEP Design

This consolidated Oil Pollution Emergency Plan (OPEP) covers the Catcher development drilling operations associated with the following operating company:

Premier Oil UK Limited ("Premier Oil" or "Premier")

This OPEP has been prepared to provide Premier response personnel with the information and processes necessary to implement an effective and proportionate response to a pollution event identified in the Catcher field system. Operationally, this OPEP covers specific project activities from the Ensco 100 jack-up drilling rig as well as supply and survey traffic when working in the 500 m safety zone.

In accordance with UK regulatory requirements and relevant Guidance[1], this OPEP details a three tiered response capability based on the following key factors: oil types; oil characteristics; potential quantities; metocean data (metrological and oceanographic); environmental and economic sensitivities and the response capabilities of both Premier and their response contractor's resources (Oil Spill Response Limited).

OPEP Structure

For ease of use by response personnel, the oil release response arrangements covering the Catcher development drilling operations are detailed in this OPEP:

Catcher Development Drilling OPEP

Designed specifically for use by the offshore and onshore response personnel, this OPEP has been sub-divided into two distinctive sections (operational and non-operational) to fulfil its operational as well as mandatory requirements:

i) Operational Section (Op #)

This section details all the necessary operational information and guidance that may be required by the OIM (Op 1) and the onshore Emergency Management Team (EMT) (Op 2) to determine and enact an appropriate response. The information is presented in a sequence expected to be followed in the event of a spill and is concise in content to facilitate clear focus on the required actions to be undertaken.

ii) Non-operational Section

This section details the supporting information necessary to align the document with the regulatory planning requirements. In order to streamline the document, operational sections are supported by information detailed within the non-operational section and will require an element of cross referencing by the reader.

All personnel expected to access this OPEP will have received formal training in its use and application, in addition to attending the mandatory oil spill response courses required by DECC.

[1] Merchant Shipping (Oil Pollution Preparedness and Response Cooperation Convention) Regulations 1998 as amended, Offshore (Emergency Pollution Control) Regulations 2002 and Guidance Notes for preparing Oil Pollution Emergency Plans January 2015.

Scope of OPEP

This is a Premier Oil UK Limited consolidated OPEP, prepared to cover the onshore and offshore responses to a release of oil to sea. Operationally, this OPEP covers specific project activities from:

- the Ensco 100 jack-up drilling rig;
- the Catcher, Varadero and Burgman fields and associated infrastructure;
- supply and survey traffic when working in the 500 m safety zone;
- unidentified third party releases.

In the event of a release of oil to sea occurring from drilling operations, this OPEP should be referred to.

This OPEP details the interface arrangements between the OCU and Premier's established emergency response processes and procedures.

In the event that an oil release to sea is part of a PFEER type emergency, reference will initially be made to the relevant ERP pertinent to the asset and nature of the emergency.

Operational Section

Op 1. Offshore Response Action Plan

Op 1.1. On-Scene Commander Checklist

❶ *Refer to the "Response Action Plan Overview" (below) for key response activities.*

❷ *Use 'Response Action Plan Overview' in conjunction with the "On-Scene Commander Checklist" (below) for detailed guidance on actions to be undertaken.*

Response Action Plan Overview

Step 1 - Initial Actions

Time	On-Scene Commander
0-20	From initial spill report: ☐ Establish safety issues. ☐ Take initial safety actions. ☐ Take action to stop / isolate release. ☐ Establish release parameters. ☐ Discuss onshore support requirements.

Step 2 - Mobilise Resources

Time	On-Scene Commander
20-40	☐ Mobilse required team(s). ☐ Determine Primacy.

Step 3 - Assess and Quantify

Time	On-Scene Commander
40-45	☐ Assess actual / potential quantity. ☐ Determine escalation potential.

Step 4 - Company and Regulatory Reporting

Time	On-Scene Commander
45-60	☐ Undertake mandatory external and internal notifications. ☐ Complete and submit PON1 within six hours of initial sighting.

On-Scene Commander Response Checklist

Step d 1 - Initial Actions

Timescale: 0 – 20 minutes (or as soon as reasonably practicable)		Actioned	Pg.
1.	Receive notification of release: location; time; source; cause; hydrocarbon type; quantity; appearance of oil; escalation potential; weather.	☐	N/A
2.	Record details onto **Op 3.1 Initial Incident Data Collection Sheet**. Log all subsequent events and calls. Refer to **Op 3.2.1 Fast Facts** for supporting field information.	☐	71 73
3.	Assume role of On-scene Commander (OSC).	☐	N/A
4.	Muster as necessary and suspend all work permits (if required).	☐	N/A
5.	If safe to do so, take action to stop release.	☐	N/A
6.	Verbally notify Coastguard. **Op 1.2.1 PON1 Notifications**	☐	21
7.	Notify Premier Drilling Supervisor and ensure notification is made to the Petrofac Emergency Response Operator (ERO) and to the Ensco Rig Manager **Op 1.2.2 Onshore Notifications and Support**. Brief of the situation & the need for support from the onshore Premier Emergency Management Team (EMT) if required.	☐	21

Step 2 - Mobilise Resources

Timescale: 20 – 40 minutes (or as soon as reasonably practicable)		Actioned	Pg.
8.	Mobilise offshore team members to support response.	☐	ERP
9.	If a well control incident cannot be brought under control immediately using offshore available resources the EMT must be notified as soon as possible.	☐	21
10.	Confirm ERRV is aware of the incident and is able to provide a report on the released oil.	☐	N/A
11.	If personnel / platform safety is at risk instruct the ERRV to spray dispersant (no endorsement from authorities needed under Force Majeure). Notify the EMT as soon as possible **Op 1.2.2 Onshore Notifications and Support** if dispersant has been sprayed. Record any use of dispersant using **Op 3.5 Record of Dispersant Usage**.	☐	21 85
12.	Confirm Premier has primacy for the release response and confirm roles and responsibilities of Premier and Ensco.	☐	89

Step 3 - Assess and Quantify

Timescale: 40 – 45 minutes (or as soon as reasonably practicable)		Actioned	Pg.
13.	If the release originates from the Ensco 100, check tank volumes / level indicators and quantify. **Op 3.2.3 Ensco 100 Oil Inventories** contains maximum inventory levels.	☐	75
14.	If release source / oil quantity is unknown, request ERRV to estimate release size from appearance **Op 1.3.1 Release Size Estimation Guide**, **Op 1.3.3 Conversion Table** and **Op 1.3.4 BONN Agreement Oil Appearance Code (BAOAC)**.	☐	23 24 25
15.	If unable to quantify, request surveillance flight through the onshore EMT or utilise an infield crew change helicopter if available.	☐	N/A

Step 4 - Company and Regulatory Reporting

Timescale: 45 - 60 minutes (or as soon as reasonably practicable)		Actioned	Pg.
16.	Report release as per company and regulatory requirements **Op 1.2 Offshore Notifications**.	☐	21
17.	As soon as possible (within six hours) complete & submit PON1 **Op 1.2.1 PON1 - Notifications**.	☐	21

CRO / Radio Room and ERRV Checklist

CRO / Radio Room	ERRV
☐ Raise alarm, inform OIM and ERRV.	☐ Raise the alarm by informing the CRO / radio room.

CRO / Radio Room	ERRV
☐ If applicable, isolate release source. ☐ Alert assets in nearby areas - see **Op 1.2.3 Nearest Installations**	

CRO / Radio Room	ERRV
	☐ Locate release and quantify size using **Op 1.3.1 Release Size Estimation Guide.**

CRO / Radio Room	ERRV

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❶ ***Refer to the Response Action Plan Overview (below) for key response activities.***

❷ ***Use "Response Action Plan Overview" in conjunction with the "On-Scene Commander Checklist" (below) for detailed guidance on actions to be undertaken.***

Response Action Plan Overview

Step 5 - Tracking and Sampling

Time	On-Scene Commander
⏱ 60-70	☐ Track release. ☐ Obtain evidence.

Step 6 - Determine Response

Time	On-Scene Commander
⏱ 70-100	☐ Determine actual / potential tier response level. ☐ Confirm response co-ordination for tier level. ☐ Consider response strategy. ☐ Identify resources required.

Step 7 – Ongoing Response

Time	On-Scene Commander
⏱ 100 +	☐ Continue to monitor & review response, weather & impact to environment. ☐ Keep onshore EMT updated. ☐ Instigate investigation.

On-Scene Commander Checklist

Step 5 - Tracking and Sampling

	Timescale: 60 - 70 minutes (or as soon as reasonably practicable)	Actioned	Pg.
18.	Only if safe to do so, task the ERRV to track the movement and parameters of the slick and / or determine projected movements using manual methods **Op 1.3.5 Manual Release Tracking.** If ERRV unable to track release, request aerial tracking to be done through the Premier onshore EMT.	☐	27
19.	If safe to do so, direct ERRV to obtain <u>three</u> oil samples using **Op 1.3.6 Release Sampling Guide.** Photographs should also be taken of the released oil / dispersing sheen from installation/ERRV.	☐	28

Step 6 - Determine Response

	Timescale: 70-100 minutes (or as soon as reasonably practicable)	Actioned	Pg.
20.	Request ERRV to identify any obvious local environmental or commercial receptors (e.g. birds, sea mammals etc.). Cross reference with environmental data in **Op 3.2.8 Environmental & Commercial Sensitivities**. Inform the Premier onshore EMT of key activities.	☐	79
21.	With the Premier onshore EMT, reconfirm tier level **Op 3.3 Tier Selection Guide**.	☐	82
22.	Identify appropriate response strategy with the onshore EMT, **Op 1.4. Offshore Counter Pollution Response Strategy Development** and confirm resources available **Op 3.4 Tiered Response Resources**. If release identified as tier 2 or tier 3, primacy regarding coordination and strategy becomes the responsibility of the Premier onshore EMT.	☐	30 83
23.	Monitor and record any changes to the appearance and / or quantity of the released oil. **Op 1.3.1 Release Size Estimation Guide**, **Op 1.3.3 Conversion Table** and **Op 1.3.4 BONN Agreement Oil Appearance Code (BAOAC).** Report to the onshore EMT.	☐	23 24 25

Step 7 - On-going Response

	Timescale: 100+ minutes (or as soon as reasonably practicable)	Actioned	Pg.
24.	Continue tracking release using infield additional resources **Op 1.3.5 Manual Release Tracking**.	☐	27
25.	Support tier 2/3 resources arriving on-site.	☐	N/A
26.	If aerial surveillance aircraft mobilised, liaise with aircraft when in area and acquire interim report – update the Premier onshore EMT.	☐	N/A
27.	Review previously submitted PON1 and Coastguard / DECC communications to establish requirement for any significant updates. Update via offshore or Premier onshore EMT as appropriate.	☐	N/A
28.	If a Tier 1 release only, establish the point at which response measures are no longer considered effective and the threat to the environment has been reduced to as low as possible. Acquire clear facts that support the intention to cease response operations.	☐	N/A
29.	If safe to do so, commence investigation.	☐	N/A

CRO / Radio Room and ERRV Checklist

CRO / Radio Room	ERRV
	☐ Track release. **Op 1.3.5 Manual Release Tracking.** ☐ If possible, take three oil samples & photographs.

CRO / Radio Room	ERRV
☐ Keep nearby assets updated.	☐ Conduct response as per OIM instructions. ☐ Monitor oil appearance and re-assess quantity.

CRO / Radio Room	ERRV
	☐ Feedback release parameters and fate to OIM.

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Op 1.2. Offshore Notifications

Op 1.2.1 PON1 Notifications

In most circumstances, PON1s will be submitted from offshore. However, in the event that the PON1 cannot be submitted by the offshore team, the onshore EMT may be tasked to undertake the submission accordingly. Once mobilised, the EMT will continue on-going liaisons with the relevant organisations. Refer to PON1 Reporting for addition information if required

Contact	Release Criteria in Tonnes			Tel No	Fax No
PON1 Notification Requirement	< 1	1 – 25	> 25		
HM Coastguard				[redacted] ABERDEEN	01224 575920 ABERDEEN
DECC				01224 254058 (OH) 0207 215 3234 / 3505 (OOH)	01224 254100
JNCC				01224 266556 (OH) 07974 257464 (24hrs)	01224 896170
Marine Scotland				N / A	01224 295511

Key:			
	Submit ePON 1 via UK Oil Portal[2] https://itportal.decc.gov.uk/eng/fox/live/PORTAL_LOGIN/login		Telephone Immediately
	If the UK Oil Portal is unavailable, revert to submission of PON1 via fax.		
OH	Office Hours	OOH	Out of Office Hours

Op 1.2.2 Onshore Notification and Support

Onshore support (for all releases)			
Petrofac ERSC (EMT Support)		[redacted]	[redacted]
		[redacted]	
Ensco - Rig Manager		[redacted]	[redacted]

[2] ePON1 is automatically received by DECC, JNCC, Marine Scotland and HMCG (Aberdeen) when submitted.

Op 1.2.3 Nearest Installations

Additional notifications which may be required depending upon release source and location.

Operator	Asset	Distance	Contact Number
Shell	Curlew	32 km SSE	[redacted]
CNRI	Banff	40 km NE	01224 303600 (Onshore security)
Dana	Triton	34 km NNE	[redacted]

Op 1.3. Release Quantification, Tracking and Sampling

Op 1.3.1 Release Size Estimation Guide

Use the guide below in conjunction with **Op 1.3.4 BONN Agreement Oil Appearance Code (BAOAC).** Working example can be found in **Op 1.3.2 Release Size Estimation – Example.**

Release Size Estimation Guide							
If the source / quantity is unknown then a visual estimation can be attained based on the relationship between observed oil colour and its thickness using **Op 1.3.4 BONN Agreement Oil Appearance Code (BAOAC).** Observations can be taken from an installation, ERRV, VOO, crew change helicopter or dedicated aerial surveillance aircraft.							
Step 1:	**Total area:** Estimate total size of the area as a square or rectangle (in km²).						
Total Area =	Average Width (km)		X	Average Length in (km)		=	km²
Step 2:	**Oil release area:** Assess the area affected by the slick in km^2 calculated as a % of the total area (i.e. 90% of 20 km² = 18 km²).						
Oil Release Area (Estimated) km²							km²
Step 3:	**Calculate area by colour:** Estimate the area covered by each colour of oil as a % of area affected in km² (i.e. 60% Silvery, 40% Metallic = 10.8 km^2 & 7.2 km^2 respectively)						

Colour	Code	Minimum (m³ / km²)	Maximum (m³ / km²)	Step 3	
				% of Area Affected	Area Covered km²
Oil Sheen Silvery	1	0.04	0.3		
Oil Sheen Rainbow	2	0.3	5.0		
Oil Sheen Metallic	3	5.0	50		
Discontinuous True Colour	4	50	200		
Continuous True Colour	5	200	>200		

Calculation for Area Covered: This should be calculated for each code to give Area Covered by Colour **km² = Area / 100 x % of Area Covered**.

Step 4:	**Calculate quantity by colour:** Multiply the area covered by each colour (Min and Max) by the appropriate quantity of oil in the table (i.e. 10.8 km^2 x 0.04 & 0.3 for Silvery & 7.2 km^2 x 5 & 50 for Metallic).

Colour	Step 3 as above	Step 4	
	Area Covered km²	Min Volume (m³)	Max Volume (m³)
Oil Sheen Silvery			
Oil Sheen Rainbow			
Oil Sheen Metallic			
Discontinuous True Colour			
Continuous True Colour			

Step 5:	**Total quantity:** Add all the quantity by colour figures to get total quantity of oil / m^3.

Total Volume (m³)	Min Volume (m³)	Max Volume (m³)

Step 6:	**Conversion:** If necessary you can covert m^3 to tonnes by multiplying total quantity in m³ by the specific gravity of the released oil. (Refer to **Op 3.2.6 Oil Properties** for specific gravity of oils).

Total Volume in tonnes (m³ x SG)	Min Volume (m³)	Max Volume (m³)

Op 1.3.2 Release Size Estimation - Example

Average Width (km)	5	km
Average Length in (km)	4	km
Total Area (Width x Length) km²	20	km²
Oil Release Area (Estimate)	18	km²

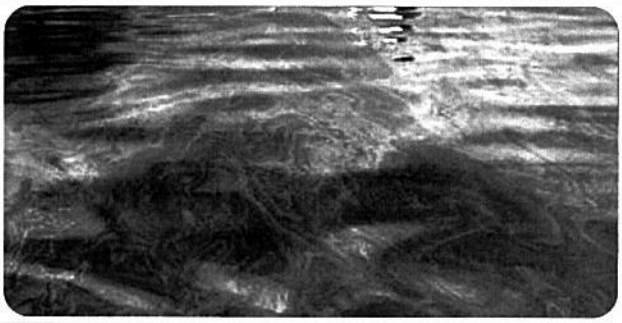
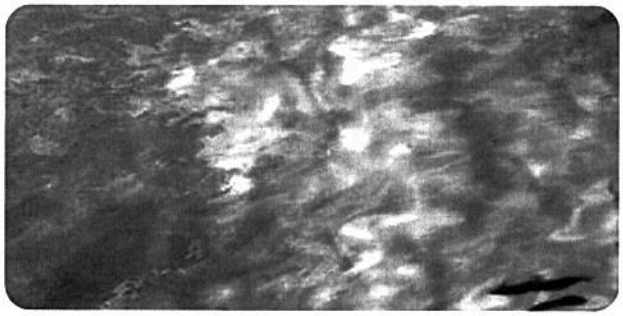
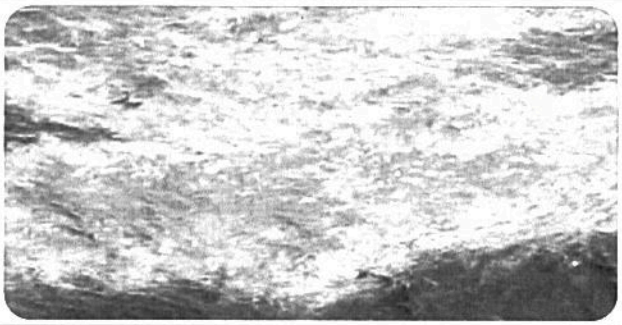
Colour	Code	Minimum (m³ / km²)	Maximum (m³ / km²)	% of Area Covered	Area Covered km²
Oil Sheen Silvery	1	0.04	0.3	60%	10.8 km²
Oil Sheen Metallic	3	5.0	50	40%	7.2 km²

Colour	Area Covered km²	Minimum Volume (m³)	Maximum Volume (m³)
Oil Sheen Silvery	10.8 km²	0.432 m^3	3.24 m^3
Oil Sheen Metallic	7.2 km²	36 m^3	360 m^3
	Total Volume (m³)	36.4 m³	363 m³

Op 1.3.3 Conversion Table

Conversion from	Quantity	Conversion to	Quantity
Kilometres – (km)	1	Nautical Mile – (nm)	0.539
Nautical Mile – (nm)	1	Kilometres – (km)	1.852
Statute Mile – (mi)	1	Nautical Mile – (nm)	0.868
Barrel (US Petroleum) - (bbl)	1	Litre - (L)	158.987
Barrel (US Petroleum) - (bbl)	1	Cubic metre - (m³)	0.159
Cubic metre - (m³)	1	Barrel (US Petroleum) - (bbl)	6.2898108
Cubic metre - (m³)	1	Gallon (US Liquid) – (gal)	264.172
Gallon (US Liquid) – (gal)	1	Litre - (L)	3.785
Gallon (UK Liquid) – (gal)	1	Litre - (L)	4.546
cubic metre to tonnes = (m³ x SG)		tonnes to cubic metre = (t/SG)	

Op 1.3.4 BONN Agreement Oil Appearance Code (BAOAC)

BONN Agreement Oil Appearance Code	
Images	**Description**
	**Code 1** Oil Sheen Silvery % Of Area Affected_____%
	**Code 2** Oil Sheen Rainbow % Of Area Affected_____%
	**Code 3** Oil Sheen Metallic % Of Area Affected_____%
	**Code 4** Discontinuous True Colour % Of Area Affected_____%
	**Code 5** Continuous True Colour % Of Area Affected_____%

BONN Agreement Oil Appearance Code	
Code	**Description**
Code 1 Oil Sheen Silvery (0.04 µm - 0.3 µm)	The very thin films of oil reflect the incoming light better than the surrounding water and can be seen as a silvery or grey sheen. Above a certain height or angle of view the observed film may disappear.
Code 2 Oil Sheen Rainbow (0.3 µm – 5.0 µm)	Rainbow oil appearance is caused by an optical effect and independent of oil type. Depending on angle of view and layer thickness, the distinctive colours will be diffuse or very bright. Bad light conditions may cause the colours to appear duller. A level layer of oil in the rainbow region will show different colours through the slick because of the change in angle of view. Therefore if rainbow is present, a range of colours will be visible.
Code 3 Oil Sheen Metallic (5.0 µm – 50 µm)	Although a range of colours can be observed (e.g. blue, purple, red and greenish) the colours will not be similar to 'rainbow'. Metallic will appear as a quite homogeneous colour that can be blue, brown, purple or another colour. The 'metallic' appearance is the common factor and has been identified as a mirror effect, dependent on light and sky conditions. For example blue can be observed in blue-sky conditions.
Code 4 Discontinuous True Colour (50 µm – 200 µm)	For oil slicks thicker than 50 µm the true colour will gradually dominate the colour that is observed. Brown oils will appear brown, black oils will appear black. The broken nature of the colour, due to thinner areas within the slick, is described as discontinuous. Discontinuous should not be mistaken for 'coverage'. Discontinuous implies true colour variations and not non-polluted areas.
Code 5 Continuous True Colour (>200 µm)	The true colour of the specific oil is the dominant effect in this category. A more homogenous colour can be observed with no discontinuity as described in Code 4. This category is strongly oil type dependent and colours may be more diffuse in overcast conditions.

Op 1.3.5 Manual Release Tracking

To be undertaken by the ERRV or VOO.

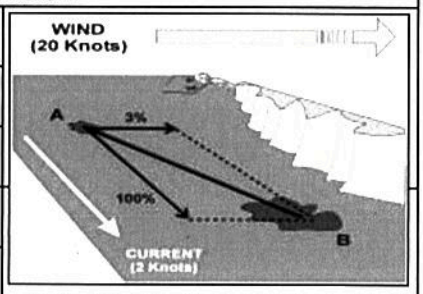
Manual Calculation of Surface Release Trajectory

An oil slick on the sea surface will move under the influences of:

- Wind speed / direction @ 3% of the speed & the direction the wind is blowing from.
- Current speed & direction @ 100% of the current speed & in the direction the current is flowing to.

Estimating slick movement may be done manually by "vector" addition using an estimate of current and wind effect. Use the below table to plot the track of the oil.

Latitude	Enter the latitude of the release when first reported
Longitude	Enter the longitude of the release when first reported
Wind	Enter the wind bearing and speed
Tide	Enter the tide bearing and speed
Elapsed	Calculate 3% wind speed over 8 hour elapsed period and, tidal bearing & speed
Plot	After calculating wind and tidal bearings for each hour to a maximum of 8 hours, calculate new latitude and longitude position of slick to a maximum of 8 hours



Spill moves from point A to B under the influences of the wind and surface current

Release at 0 Hours								
Latitude	N/S		°		'		"	
Longitude	E/W		°		'		"	
Wind Bearing					°			
Wind Speed in kts					kts			
Tidal Bearing					°			
Tidal Speed in kts					kts			

Hours Elapsed	Wind Bearing (°)	Wind Speed (knots)	3% of Wind Speed (knots)	Tidal Bearing (°)	Tidal Speed (knots)
1					
Release Position		Lat:		Long:	
2					
Release Position		Lat:		Long:	
3					
Release Position		Lat:		Long:	
4					
Release Position		Lat:		Long:	
5					
Release Position		Lat:		Long:	
6					
Release Position		Lat:		Long:	
7					
Release Position		Lat:		Long:	
8					
Release Position		Lat:		Long:	

Op 1.3.6 Release Sampling Guide

It is advisable to take a sample of the spilt oil if it is safe and possible. The On-Scene Commander should request the Master of the ERRV to collect a sample of the oil using the oil spill sampling kit provided. Advice on the collection and handling of oil samples is given in the table below.

Number of Samples Required

MCA recommend three sealed samples:

- One for analysis specified by DECC or MCA.
- One to be made available to Premier for evidential purposes if required.
- One to be retained by Premier for their purpose.

Frequency of Sampling

Minimum of 1 sample / slick / day where possible.

Size of Sample

- Unweathered oils (liquid and subsequently free of water): 10 ml
- Oil exposed to sea surface and forming water-in-oil emulsion: 10 ml
- Overside water discharge (suspected of 100 ppm): 1 litre of discharge
- If such quantities cannot be collected, sampling should still be attempted. In some cases larger volumes may be required for further testing of the slick.

Collecting Method

- Skim the oil off the surface of the water, ensuring maximum oil content and minimum water (a bucket with a hole may be required to collect the sample initially).
- Avoid using metal tools to collect the sample.
- Any collection of lumpy tar / waxy pollutant should be placed directly into sample containers, with no attempt of heating or melting these samples.
- Oil collected which is attached to floating debris and seaweeds should be placed along with the debris/seaweeds, directly in to the sampling container.
- Sample containers should be sealed as soon as possible to minimise the evaporation of the oil's higher fractions, and labelled.

Container Sealing, Packaging and Transporting

- Sample containers should be glass with a large neck and a screw cover and a seal which cannot be affected by oil, e.g. no waxed cap seals.
- Plastic/metal containers should be avoided as they can react with the sample and interfere with analysis.
- All sample containers should be sealed with a tamper proof seal.
- Where possible all samples should be securely packed and sealed. Approved fireboard boxes should be used to ensure safe carriage of the samples.
- Samples should be stored in a refrigerator/cold room at less than 5°C in the dark.
- When transporting the materials, vermiculite should be used to surround the samples in the box for protection and to absorb any seepage.

Labelling

Each sample should be clearly labelled with:

- An identifying number which is made up of the date and the initials of the official in charge of taking the samples. For example 10/04/12/JS = Sample taken on 10th April 2012 by John Smith.
- A description of the sample.

- Location that sample was taken from.
- Purpose for which the sample was taken.
- If known, suspected source, e.g. name of drilling rig.
- Whether or not dispersants have been used and, if known, their type and make.
- Method of sampling.
- Name, address and telephone number of person taking samples and of anyone witnessing the taking of it.
- Additional information that would be useful include; wind direction and velocity; air and water temperature; sample descriptions i.e., viscosity, colour and contaminants and; description of the oil spill i.e. distribution and consistency.

Analysis

The samples should be sent to:
Fugro ERT,
Gait 8,
Research Park South, Heriot-Watt University, Edinburgh, EH14 4AP.

Op 1.3.7 Example Oil Sample Label

OIL POLLUTION SAMPLE – STANDARD LABEL

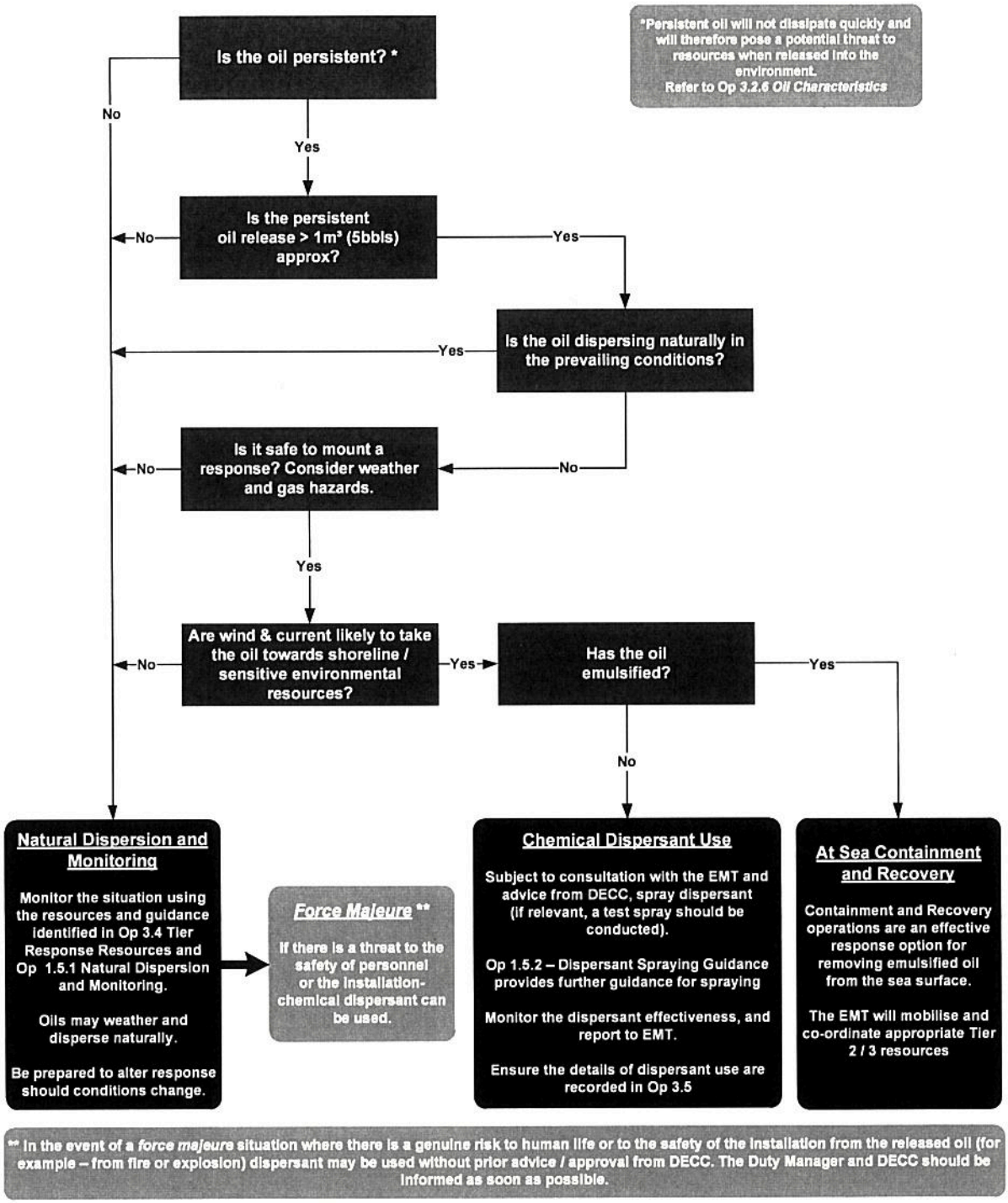
ID No	Date/Time	Location (Grid Ref)	Name and Address of person taking sample

For continuity of evidence: Please complete clearly
Sample passed to:

Date	Name	Address	Signature

Op 1.4. Offshore Counter Pollution Response Strategy Development

The following counter pollution response strategy flowchart can be used to determine a high level response strategy.



Op 1.4.1 Testing Dispersant Efficacy Procedure

To be undertaken by the ERRV if safe to do so.

Test spraying cannot be undertaken without prior advice from DECC.

Testing Dispersant Efficacy Procedure	
Step	**Action**
1	**Conduct Bench Scale Test:** Test the amenability of the spilled oil to dispersants following the sampling of the slick. This should be done as quickly as possible after taking the sample. The test should be carried out as follows: • fill a clean screw top jar with seawater; • carefully place about 25 ml of released oil on the surface; • add about 1 ml of dispersant (approximately 20 drops) onto the surface; • shake the jar; • allow to stand for 1 min after shaking. **Observations:** If the dispersed oil does not resurface but is held in suspension in the seawater, this indicates that the slick should be amenable to dispersant spraying.
2	**Identify Spray Parameters:** • Undertake calculations to select correct pumping rate and vessel speed in relation to nozzle size (delivery rate) and effective swath width of the equipment. • Commence spraying operations with a ratio of 20:1 oil to dispersant.
3	**Conduct a Test Spray:** Identify a patch of continuous true coloured oil as defined in the BAOAC. Prepare vessel for spraying operations, enter the slick at recommended speed and commence spraying at a consistentrate. Complete **Op 3.5 Record of Dispersant Usage**. Observe Oil / Dispersant Interaction: During spraying operations, look for evidence of dispersion. If dispersion is achieved it will produce a "smoke plume" in the water. The dispersion will vary in colour between dark and light brown.
4	**Further Observation:** Once test spray run is complete, shut off dispersant application system and manoeuvre vessel to return back along the test spray path to further evaluate effectiveness.
5	**Report Findings:** Document findings and report to the onshore EMT for discussion with regulatory authorities. Only commence spraying once further approval has been sanctioned through the onshore EMT.

Op 1.5. Offshore Counter Pollution Response Guidance

Op 1.5.1 Natural Dispersion and Monitoring

Surveillance and Monitoring Response
The response strategy most likely to be implemented regardless of spill size. In the event of larger spills additional responses, such as dispersant spraying may be required.

Operational Considerations

- For smaller spills, and if it is safe for the ERRV to move away from the installation, identify heaviest concentrations of oil using the BAOAC. (see **Op 1.3.4 BONN Agreement Oil Appearance Code (BAOAC)**
- Monitoring of large spills should ideally be carried out using a dedicated surveillance aircraft. Contact EMT and request assistance.
- Follow patches of heaviest oil concentration and watch and report on break-up of slick.
- Determine and report direction of movement of other oil patches; note and report to the Premier EMT the movement of oil towards sensitive environmental resources.
- Watch for and report any large flocks of birds on the sea surface or sea mammals on the sea surface.
- Determine progress of natural dispersion or emulsion formation. Note that crude oil spilled at sea will undergo changes in appearance due to weathering. Thicker patches of crude oil will usually appear as dense black areas, but as emulsification occurs the colour will change to brown.
- Diesel and base oil will rapidly spread out to form sheen and cannot be easily removed by dispersant or mechanical means. Diesel should naturally disperse within hours.
- Light crude oils will take about 1-3 days to naturally disperse, depending on amount spilt and sea state conditions.
- Heavier crude oils will take longer to disperse; depending on the type of oil, amount spilt and sea state conditions.

Op 1.5.2 Dispersant Spraying

In the event of a force majeure situation where there is a genuine risk to human life or to the safety of the installation from the released oil, (for example - from fire or explosion) dispersants may be used without prior advice or approval from DECC. The EMT should be informed as soon as possible if dispersant has been used.

Dispersant Spraying

For any planned use of dispersant, including any test sprays the onshore EMT should seek advice / approval from DECC if dispersant is being considered as part of the response strategy. DECC will forward approval for dispersant usage onto Premier.

Use **Op 3.5 Record of Dispersant Usage** to record any use of dispersant.

- Chemical dispersants are not recommended for use on releases of diesel[3].
- It is most effective to spray with the spray arms mounted on the vessel's bow as the bow wave will assist in agitating the dispersant and oil mix.
- Upper wind speed limit for spraying is 25 - 30 knots. Any stronger and the dispersant will be blown off target by the wind and the required mix ratio will not be attained.
- If dispersant is to be used, it will be most effective within the first few hours of the release. Dispersants may not be as effective on weathered crude once it has been at sea for a long period of time.
- Oil to dispersant ratio should be 20:1 i.e. 20 tonnes of oil should be dispersed by 1 tonne of dispersant. Depending upon the oil type and dispersant being used, this ratio may need to be revised.
- Ensure correct use of dispersant - either neat application or dilute with water. This will depend upon dispersant type (type 2 or 3) and type of application equipment on-board the VOO.
- If a dispersant strategy is to be utilised, commence operations targeting the thickest portions of the slick.
- Application of dispersant should be conducted in parallel runs to optimise delivery across the slick.
- As dispersion is achieved it will produce a "smoke plume" in the water. The dispersion will vary in colour between dark and light brown.
- If dispersion is ineffective, a milky white plume will appear in the water close to the surface which indicates the dispersant is not being effective and spraying should stop. Inform the OIM / onshore EMT.
- Observe all applicable safety precautions when using dispersants.
- Keep a full log of dispersant use and application times. Complete **Op 3.5 Record of Dispersant Usage**.
- Monitor the effects and report observations as this may influence subsequent response strategies.

[3] In the unlikely event that diesel will not disperse naturally, and dependent on the nature and location of the release, chemical dispersant may be considered. DECC **must** be consulted (undertaken by the EMT) and **must** approve the use of dispersant on diesel.

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Op 2. Onshore Response Action Plan

Op 2.1. Emergency Management Team Checklists

Op 2.1.1 HSEQ Advisor

HSEQ Advisor Checklist Mobilisation Assumption		
This checklist commences from the point the HSEQ Advisor has been alerted to the incident via the onshore Emergency Response Operator (ERO) and mobilised to the Petrofac Emergency Response Service Centre (ERSC).		
Initial Assessment		**Actioned**
1.	• Ensure both the Duty Manager and the Emergency Co-ordinator (EC) has a copy their checklists. **Op 2.1.3 Duty Manager** and **Op 2.1.2 Emergency Co-ordinator**. • Establish a communications link with the Site Contact and acquire latest update from offshore. Use **Op 3.1 Initial Incident Data Collection Sheet.** as a guide to collect the essential information required for initial notification of DECC.	☐ ☐
Command Centre & Response Organisation Set up		**Actioned**
2.	• Assist the Duty Manager and EC in confirming response primacy between Premier and Ensco **Section 1 Response Primacy and Organisation (Non – Operational Section)**.	☐
Initial Spill Response		**Actioned**
3.	• Confirm response actions undertaken by offshore & spill parameters. If spill originates from the Ensco 100 (i.e. diesel), use **Op 3.2.3 Ensco 100 Oil Inventories** to determine potential quantities. • If spill source unknown request that offshore use BAOAC in **Op 1.3.4 BONN Agreement Oil Appearance Code (BAOAC)** to estimate quantity. • If a well control issue – refer to **Op 3.2.5 Well Data** for worst case flow rates. Request offshore confirm well flow rates. • Have offshore taken samples? • Discuss with the Duty Manager and EC the consideration for the establishment of a Restricted Area (Temporary) - RA(T) and/or a Temporary Exclusion Zone - TEZ **Note:** RA(T) – Restricts aircraft movement within a certain area. The establishment of a RA(T) can be requested (lat /long and height) for on-going counter-pollution operations The request is made to the Civil Aviation Authority (as the regulator for civilian aviation) but, in the interests of simplicity and continuity it may be easier to pass the request through the Coastguard, via the MCA CPSO. It should be noted that if the RA(T) is granted and implemented, the operational (as opposed to the regulatory) authority for it rests with the 'Emergency Controlling Authority', which in the case of on-going counter-pollution operations, is the Operator. TEZ – Restricts vessel movement within a certain area. The area needs to be defined (lat /long and radius outwith) by the Operator. The operational authority of the TEZ rests with the Operator. Only the SOSREP can authorise the establishment of the TEZ. A request via the DECC Inspector /CPSO can be made if the SOSREP has not mobilised.	☐ ☐ ☐ ☐ ☐

HSEQ Advisor Checklist		
4.	Using the criteria detailed in **Op 3.3 Tier Selection Guide** and in conjunction with offshore, establish & confirm the required tiered response. • For Tier 1 spills the Ensco OIM has primacy for the co-ordination of the response and is unlikely to require any additional onshore support. • For Tier 2/3 spills the EMT takes overall primacy for developing and co-ordinating the response with support from Ensco. Discuss and confirm with the Duty Manager and EC the selected Tier. In addition, discuss with the Duty Manager and EC the considered worst case scenario / escalation potential of the incident.	☐
Notifications		**Actioned**
5.	Confirm OIM has undertaken the statutory notifications as per the **Op 1.2 Offshore Notifications**. Stipulate requirement to submit ePON1 via UK Oil Portal within 6 hours of the time spill was sighted **Op 3.6 PON1 Reporting**, to the relevant authorities. **Note: The Catcher development is in Scottish Territorial Waters**	☐ ☐
Initial Notifications		**Actioned**
6.	For Tier 2 / 3 spills, assist the Duty Manager in contacting OSRL in Southampton **Op 2.2.4 OSRL Notification and Mobilisation** to inform them that assistance will be required. Request: • Surveillance aircraft to be placed on standby; • Requirement for real time modelling to be undertaken by OSRL – details to follow; • Potential / actual requirement for OSRL Technical Advisor to mobilise to the EMT; • Confirmation of information requirements from OSRL for above to happen.	☐ ☐ ☐ ☐
7.	Notify all relevant statutory agencies as per the **Op 2.2 Onshore Notifications**. Use the **Op 3.1 Initial Incident Data Collection Sheet** as the basis for your brief. **Note: Depending upon situation DECC may send an Inspector to the EMR. The MCA CPSO or a Coastguard Liaison Officer (CGLO) may also attend in support of DECC.**	☐
Surveillance		**Actioned**
8.	• In addition to reports from the ERRV and / or crew change helicopters, assist the Duty Manager to arrange the mobilisation of the dedicated surveillance aircraft through oil spill contractor (OSRL). • Duty Manager to sign Notification and Mobilisation Forms. Forms can be acquired electronically from the OSRL website http://www.oilspillresponse.com/index.php/activate-us/ukcs-capability-statement or can be faxed / emailed from the OSRL Duty Manager in Southampton. • Fax / email completed documents to OSRL. • Establish the ETA & ETD of the aircraft and ensure the OIM is informed.	☐ ☐ ☐ ☐
9.	Once aircraft ETD is confirmed contact JNCC **Op 2.2 Onshore Notifications** and enquire if they wish to take up an observer seat on the OSRL surveillance aircraft. If JNCC accept, inform OSRL who will then arrange pick up of the JNCC observer by the aircraft.	☐

HSEQ Advisor Checklist Track Spill		Actioned
10.	Task Logistics to acquire both short and long term weather forecasts, taking note of predicted changes in wind direction.	☐
11.	• Upon receipt of weather data, contact OSRL and request deterministic modelling runs. • Discuss data requirements with OSRL based on worst case or known quantities. • If spill is on-going, use Oil Spill Quantification Table (**HSEQ Checklist Action No.37**) to track any changes in Spill Volume and Flow Rate.	☐ ☐ ☐
Determine Oil Behaviour		**Actioned**
12.	• When modelling completed discuss results with OSRL. Establish trajectory and persistence. Inform Duty Manager and EC of result. • Upon receipt of modelling, reference **Op 3.2.6 Oil Properties** and determine with OSRL the oil's behaviour given actual and forecast weather conditions.	☐ ☐
Establishing Impact		**Actioned**
13.	Using the modelling results and **Op 3.2.8,** establish the likely impact the slick may have on environmental sensitivities.	☐
14.	If practicable, run the MAGIC info website map to assist in determining environmental resources at risk. This can be done in conjunction with JNCC. (http://www.magic.gov.uk/)	☐
15.	• If not already done, identify neighbouring installations and request the EC establish if offshore notifications have been made of potential hazard **Op 3.2.1 Fast Facts** and **Op 1.2.3 Nearest Installations** **Note: MCA expectation is that Premier undertakes these notifications.** • If crossing any median lines, advise the EC (including time estimated time to reach border) and ensure relevant notifications are made to the MCA and DECC.	☐ ☐
16.	• If spill is likely to approach 25 / 12 and 3 nm limit of Scottish coastline - undertake additional reporting as per **Op 2.2 Onshore Notifications**. • If spill is likely to approach 25 / 12 and 3 nm limit of English coastline - undertake additional reporting as per **Op 2.2 Onshore Notifications**. • **Ensure a copy the PON1 is sent to both or relevant agency as appropriate.**	☐ ☐ ☐
Developing the Response Strategy		**Actioned**
17.	In discussion with OSRL and using the results from the below sources, formulate an appropriate response strategy: • modelling; • surveillance flight; • anticipated fate of the slick; • environmental sensitivities; **Op 2.3 Onshore Counter Pollution Response Strategy Development** **Op 2.4 Counter Pollution Response Strategy Options** If the strategy includes the use of dispersant, ensure DECC have provided advice, or where required - approval, before dispersant usage. Refer to **Op 2.4.3**, **2.4.4** and **Op 2.4.5**.	☐

HSEQ Advisor Checklist		
18.	With OSRL confirm the resources required to implement the strategy and likely response times **Op 3.4 Tiered Response Resources**.	☐
19.	• Contact JNCC and DECC outlining proposed response strategy and identify any considerations that may influence the options e.g. seabird populations etc. • Advise Marine Scotland (Scottish waters) and/or Marine Management Organisation (English waters) if intending to use dispersant, including test spraying. • Factor statutory authorities' considerations into the response and confirm plan with OSRL, Duty Manager and the EC. • Ensure Ensco are aware of the plan, both off and onshore.	☐ ☐ ☐ ☐
20.	Brief the Duty Manager and EC on proposed strategy, timings and equipment requirements. Raise awareness of any contentious issues and gain Duty Manager consent.	☐
Mobilise Resources		**Actioned**
21.	If required, update any OSRL mobilisation forms and acquire Duty Manager authorisation before forwarding to OSRL.	☐
DECC Involvement and SOSREP Interface		**Actioned**
22.	In the event that DECC send an Inspector to the EMR, or the SOSREP is mobilised, work with the EC to fulfil the actions detailed in **Op 2.1.4 Preparing for DECC Involvement**.	☐
	In the event that the SOSREP mobilises the OCU, work with the Duty Manager and EC to fulfil the actions detailed in **Op 2.1.6 Preparing for OCU Mobilisation**, **Op 2.1.7 Emergency Operations Manager** and **Op 2.1.8 Operator Representative**.	☐
	If incident involves Ensco, request through the Duty Manager - the relevant Ensco Representative mobilises as the Non-Production Installation Operator Representative / Technical Representative to the IMR in support of the Premier EOM and Ops Rep.	☐
MCA Interface		**Actioned**
23.	In the event that the MCA setup a Marine Response Centre (MRC) - work with the Duty Manager and EC to fulfil the actions detailed in **Op 2.1.5 Preparing for MRC Involvement**.	☐
On-going Response		**Actioned**
24.	**ONLY** if safe to do so, ensure ERRV takes 3 oil samples in alignment with the offshore sampling procedure **Op 1.3.6 Release Sampling Guide.**	☐
25.	With OSRL, continue to monitor the situation and ensure the operational response plan is developed accordingly. Account for changes in weather, oil properties and environmental sensitivities.	☐
26.	Ensure MCA, DECC, MS / MMO, JNCC and other key stakeholders involved in the response are kept updated and endorse any changes to the plan.	☐
27.	If the OCU is operational ensure you maintain regular briefs with the EOM and support their requests for information as and when necessary.	☐
28.	Maintain regular aerial surveillance flights and keep JNCC updated of flight times and the option to place an observer on the flight.	☐
29.	Monitor levels of equipment and manpower mobilised.	☐

HSEQ Advisor Checklist		
30.	If any liquid has been recovered at sea and is to be brought onshore, contact approved waste disposal contractor and co-ordinate with SEPA (Scotland) / Environment Agency (England) and HM Customs to obtain all the necessary waste management permits and approvals.	☐
Cessation of Response Operations		**Actioned**
31.	Assist the Duty Manager by establishing with OSRL the point at which response measures are no longer considered effective and the threat to the environment has been reduced to as low as possible. Acquire clear facts that support this view i.e. surveillance flights, photos and reports.	☐
32.	Seek confirmation from the Duty Manager and EC of intention to cease response operations.	☐
33.	If requested, assist the Duty Manager with preparation of an outline monitoring programme detailing: • Actions and measures to be taken by Premier to ensure no further releases of oil; • Arrangements in place to monitor environmental impact.	☐ ☐
34.	Engage the necessary statutory authorities and receive endorsement to cease response and for the monitoring programme to be implemented.	☐
35.	Ensure all parties contacted during the incident are notified of cessation of response operations.	☐
36.	Ensure all response paperwork relating to the incident is appropriately filed, including log sheets, forms, faxes, emails & oil spill modelling results.	☐

Oil Spill Quantification Table							
37.	Time						
	Volume of Spill						
	Rate of Spill						

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Op 2.1.2 Emergency Co-ordinator

Emergency Co-ordinator Checklist		
Mobilisation Assumption		
This checklist commences from the point the Emergency Co-ordinator (EC) has been alerted to the incident via the onshore Emergency Response Operator (ERO) and mobilised to the Petrofac Emergency Response Service Centre (ERSC).		
Communications		**Actioned**
1.	• Establish a communications link with the field through the Site Contact. • Ensure Log Keeper maintains a log of events.	☐ ☐
Command Centre & Response Organisation Set up		**Actioned**
2.	Request latest update from offshore and arrange protocol for regular updates. **Note: The HSEQ Advisor is a key responder with regards to oil spill response - therefore maintain close liaison with them.**	☐
3.	• Confirm with the Duty Manager the response liaison between Premier and Ensco. • Request Ensco Emergency Response Duty Manager be mobilised to the EMR.	☐
Initial Spill Response		**Actioned**
4.	In discussion with the HSEQ, confirm the Tiered Response Level selected and actions being undertaken to track, quantify and respond (initial only) to the incident. • For Tier 1 spills the Ensco 100 OIM has primacy for the co-ordination of the response and is unlikely to require any additional onshore support. • For Tier 2/3 spills the EMT takes overall primacy for developing and co-ordinating the response with support from Ensco.	☐
5.	Confirm Holding Statement is in place and determine whether a Press Statement is required. Confirm with the Duty Manager and Media Advisor if the Media Response Team will be required.	☐
Notifications		**Actioned**
6.	• Confirm the oil spill response contractor (OSRL) has been notified and are able to provide support; • Task HSEQ to notify neighbouring installations if a spill is anticipated to be large or on-going.	☐ ☐
7.	Confirm that the Ensco 100 OIM has undertaken all statutory notifications and HSEQ has made the necessary follow up notifications. **Note: Depending upon the situation, DECC may send an inspector to the EMR. The MCA CPSO or Coastguard Liaison Officer (CGLO) may also attend in support of DECC.**	☐
8.	Assist the Duty Manager with updating the Corporate Emergency management Team (CERT) on the situation and identifying key stakeholders that require notification and confirm who is to make contact.	☐
9.	If the spill is reported as heading towards an international median line: Ensure statutory authorities are aware i.e. MCA and confirm they have made notification to the relevant state's authorities.	☐
Selecting and Planning the Response Strategy		**Actioned**
10.	With the Duty Manager and HSEQ establish: • The oil type and quantity spilled; • Have 3 samples been taken; • Is the spill on-going;	☐ ☐ ☐

Emergency Co-ordinator Checklist		
	• Has adequate surveillance of the spill been activated? (Initial reports from ERRV and crew change helicopters are acceptable but, a full survey from OSRL's dedicated surveillance aircraft is a requirement).	☐
	Response Actions: • What is the planned counter pollution response strategy – Monitor and Surveillance, Dispersant, Containment and Recovery; • What is the containment (source control) response strategy plan – Well Capping / Relief Well; • What are the response times for resources to site; • Has agreement from statutory authorities been reached; • Are DECC considering mobilising an inspector to the EMR and has any interest been shown by the SOSREP?	☐ ☐ ☐ ☐ ☐
11.	If the oil spill response is going to be protracted, request the Duty Manager confirm with the CERT that consideration has been given to setting up a separate project team to manage the associated activities.	☐
Mobilisation		**Actioned**
12.	• Discuss authorisation of mobilisation of the response & associated equipment / resources as required. • Confirm Duty Manager has completed the oil spill response contractor (OSRL) notification and mobilisation forms.	☐ ☐
DECC Involvement and SOSREP Interface		**Actioned**
13.	In the event that DECC send an inspector to the EMR, work with the HSEQ to fulfil the actions detailed in **Op 2.1.4 Preparing for DECC Involvement**.	☐
	In the event that the SOSREP mobilises the OCU, work with the Duty Manager and HSEQ to fulfil the actions detailed in **Op 2.1.6 Preparing for OCU Mobilisation**, **Op 2.1.7 Emergency Operations Manager** and **Op 2.1.8 Operator Representative**.	☐
	If incident involves Ensco, request through the Duty Manager - the relevant Ensco Representative mobilises as the Non-Production Installation Operator Representative / Technical Representative to the IMR in support of the Premier EOM and Ops Rep.	☐
MCA Interface		**Actioned**
14.	In the event that the MCA setup a Marine Response Centre (MRC) - work with the Duty Manager and HSEQ to fulfil the actions detailed in **Op 2.1.5 Preparing for MRC Involvement**.	☐
On-going Response		**Actioned**
15.	Manage media requirements.	☐
16.	Conduct regular briefings with the EMT and any other teams that have been mobilised in support of the spill response.	☐
17.	Continue to monitor the situation and ensure the operational response plan is developed accordingly.	☐
18.	Ensure the regulatory authorities and other key stakeholders are kept updated.	☐
19.	If the OCU is operational, ensure you maintain regular briefs with the EOM and Ops Rep and support their requests for information as and when necessary.	☐
20.	Consider the need for legal / claims issues to be managed and alert the appropriate personnel.	☐

Emergency Co-ordinator Checklist Cessation of Response Operations		Actioned
21.	Establish with the Duty Manager, HSEQ and Ensco Emergency Response Duty Manager, the point at which response measures are no longer considered effective and the threat to the environment has been reduced to as low as possible. Acquire clear facts that support the intention to cease response operations.	☐
22.	Work with the Duty Manager to ensure that CERT is informed of intentions to cease response operations and receive endorsement.	☐
23.	Assist the Duty Manager with the preparation of an outline monitoring programme detailing: • Actions and measures to be taken to ensure no further release of oil; • Arrangements in place to monitor environmental impact.	☐ ☐
24.	Ensure HSEQ engages the necessary statutory authorities and receives endorsement to cease response and for the monitoring programme to be implemented.	☐
25.	Ensure all response paperwork is appropriately filed, including log sheets, forms, faxes, emails and modelling results.	☐
26.	Stand-down team.	☐
27.	Establish through the Duty Manager, the individual responsible for compiling and storing all the response documentation and the person who will become the point of contact with DECC with regards to debriefs and investigations.	☐

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Op 2.1.3 Duty Manager

Duty Manager Checklist Mobilisation Assumption		
This checklist commences from the point the Duty Manager has been alerted to the incident via the onshore Emergency Response Operator (ERO) and mobilised to the Petrofac Emergency Response Service Centre (ERSC).		
Communications		**Actioned**
1.	Link with the Emergency Co-ordinator (EC) and acquire an update of the situation.	☐
2.	Contact the Corporate Emergency Management Team (CERT) and brief them of the incident and discuss the need for CERT mobilisation. Confirm the communication protocol and update process.	☐
Initial Spill Response		**Actioned**
3.	• In discussion with the EC and the HSEQ Advisor (HSEQ), establish the Tiered Response Level selected. • Confirm the state of the Ensco 100 and if the spill source has been contained. **If source control measures are required – mobilise the appropriate wells support.** • Task HSEQ to contact OSRL and verbally authorise their engagement. • Ensure the OSRL Notification and Mobilisation Forms are completed, signed off and sent to OSRL. (Get assistance from HSEQ) **(OSRL assets will not be mobilised until these forms have been received by OSRL, Southampton).**	☐ ☐ ☐ ☐
	Establish through HSEQ the actions being undertaken to track, quantify and respond (initially only) to the incident. • For Tier 1 spills, the On-Scene Commander has primacy for the co-ordination of the response. Support from the EMT will be provided as necessary. • For Tier 2/3 spills, the EMT takes overall primacy for developing and co-ordinating the response.	☐
4.	• Liaise with Media Advisor. • Determine requirement for Holding Statement and distribution i.e. Reception. • Establish requirement for Media Telephone Response Team. • Agree process for drafting, approval and authorisation of subsequent press releases.	☐ ☐ ☐ ☐
Notifications		**Actioned**
5.	Confirm the response contractor (OSRL) has been notified and are able to provide support.	☐
6.	Confirm that offshore have undertaken all statutory notifications (Coastguard, DECC, JNCC and Marine Scotland / MMO) and HSEQ has made the necessary follow up notifications. **Note: depending upon the situation DECC may send an inspector to the EMT**.	☐
7.	Update the CERT.	☐

Duty Manager Checklist		
8.	If oil is reported as heading towards a median line ensure statutory authorities are aware i.e. MCA and confirm they have made notification to the relevant state's authorities.	☐
Selecting and Planning the Response Strategy		**Actioned**
9.	With EC and HSEQ establish: • The quantity of oil spilt and the oil type, • Have 3 samples been taken? • Is the spill on-going? • Has adequate surveillance of the spill been activated? (Initial reports from ERRV or crew change helicopters are acceptable but, a full survey from OSRL's dedicated surveillance aircraft is a preferable).	☐ ☐ ☐ ☐
	With the EC and HSEQ confirm the following response actions: **Response Actions:** • What is the planned counter pollution response strategy – Monitor and Surveillance, Dispersant, Containment and Recovery; • What is the containment (source control) response strategy plan – Relief Well? • What are the response times for resources to site? • Has agreement from statutory authorities been reached? • Are DECC considering mobilising an inspector to the EMR and has any interest been shown by the SOSREP?	☐ ☐ ☐ ☐ ☐
	If the strategy includes the use of dispersant, ensure DECC have provided advice, or where required - approval, before dispersant usage.	☐
10.	If the oil spill response is going to be protracted, consider setting up a separate project team to manage associated activities i.e. counter pollution and source control.	☐
Mobilisation		**Actioned**
11.	• Authorise the mobilisation of the response and associated equipment / resources as required. • Sign-off OSRL mobilisation forms as requested by HSEQ.	☐ ☐
DECC Involvement and SOSREP Interface		**Actioned**
12.	In the event that DECC send an inspector to the EMR, work with the HSEQ and EC to fulfil the actions detailed in **Op 2.1.4 Preparing for DECC Involvement**.	☐
	In the event that the SOSREP mobilises the OCU, work with the EC and HSEQ to fulfil the actions detailed in **Op 2.1.6 Preparing for OCU Mobilisation**, **Op 2.1.7 Emergency Operations Manager** and **Op 2.1.8 Operator Representative**.	☐
	If incident involves Ensco, request the relevant Ensco Representative mobilises as the Non-Production Installation Operator Representative / Technical Representative to the IMR in support of the Premier EOM and Ops Rep.	☐
MCA Interface		**Actioned**
13.	In the event that the MCA setup a Marine Response Centre (MRC) — Mobilise a Premier Liaison Representative to attend the MRC - work with the EC and HSEQ to fulfil the actions detailed in **Op 2.1.5 Preparing for MRC Involvement**.	☐

Duty Manager Checklist On-going Response		Actioned
14.	Continue to engage in media requirements as previously agreed and review as appropriate.	☐
15.	Continue to monitor the situation and ensure the operational response plan is developed accordingly.	☐
16.	Ensure the regulatory authorities and other key stakeholders are kept updated.	☐
17.	If the OCU is operational, ensure you maintain regular briefs with the EOM and Ops Rep and support their requests for information as and when necessary.	☐
18.	Consider the need for legal / claims issues to be managed and alert the appropriate personnel through the CERT.	☐
Cessation of Response Operations		**Actioned**
19.	With the EC, HSEQ and Ensco Emergency Response Duty Manager, establish the point at which response measures are no longer considered effective and the threat to the environment has been reduced to as low as possible. Acquire clear facts that support the intention to cease response operations.	☐
20.	Ensure that the CERT is informed of intentions to cease response operations and receive endorsement.	☐
21.	Request CERT prepare an outline monitoring programme for the relevant Authorities detailing: • Actions and measures to be taken by Premier to ensure no further release of oil, ☐ • Arrangements in place to monitor environmental impact. ☐ Seek assistance from relevant EMT members i.e. EC and HSEQ Advisor.	
22.	Ensure HSEQ engages the necessary statutory authorities and receives endorsement to cease response and for the monitoring programme to be implemented.	☐
23.	Ensure all response paperwork is appropriately filed, including log sheets, forms, faxes, emails and oil spill modelling results.	☐
24.	Confirm with EC the point at which the EMT can be stood down.	☐
25.	With the CERT, confirm the on-going point of contact for all issues pertaining to the incident. In addition, confirm the person who will become the point of contact with DECC with regards to debriefs and investigations and who will be responsible for collation of a "lessons learned" profile.	☐

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Op 2.1.4 Preparing for DECC Involvement

DECC may mobilise an Inspector to the EMT with the remit of minimising the threat to the environment. The MCA Counter Pollution and Salvage Officer (CPSO) or Coastguard Liaison Officer (CGLO) may also mobilise to the EMT and liaise with the DECC Inspector. The CPSO / CGLO will mobilise to the OCU upon its formation. This checklist enables the Duty Manager, EC and the HSEQ Advisor to prepare for the DECC Inspector's arrival, and to monitor the setting up of an OCU under the leadership of the SOSREP. In the event of an oil release incident, the Ensco Emergency Response Duty Manager (or their delegate) will mobilise to the Premier EMR and attend OCU meetings as the Technical Representative.

DECC Inspector Arrival Checklist Emergency Co-ordinator Actions		Actioned
1.	If advised by the HSEQ Advisor that a DECC Inspector is planning to attend the EMR, advise the ERO and assign a team member to meet the DECC Inspector.	☐
2.	Upon arrival of the inspector, ensure they receive a briefing by the Duty Manager which includes the following: • Information on the rig / well, including structure type, drilling details and status. • Diagram(s) showing the locality of the rig including but, not limited to, installations, tie-backs, subsea structures and the boundaries of the OPEP. • Details of the incident and actions (undertaken and planned) to contain the release source. • Details of media holding statements and press releases which have been prepared and issued. • Establish on-going link through the HSEQ.	☐ ☐ ☐ ☐ ☐
3.	Provide a work area for the DECC inspector to keep appraised and informed of the situation and for the inspector to make calls to the SOSREP.	☐

Op 2.1.5 Preparing for MRC Involvement

In the event of the Marine Response Centre (MRC) being formed, a Premier Liaison Representative should be mobilised to attend the MRC. Their role is to:

- Act as point of contact between the EMT and the MRC.
- Communicate Premier's counter pollution response strategies and resources mobilised.
- Identifying and accept costs associated with resources mobilised by the MRC - under 'polluter pays' principal.

Preparing for MRC Involvement Checklist		
Premier Liaison Representative Actions		**Actioned**
1.	Receive a full brief from the Duty Manger on the current situation. You may need to speak to other EMT members to gain a better awareness.	☐
2.	Gather the following information: • Copy of the OPEP; • Fast facts; • Modelling report (s) – if available; • Details of the Premier Oil counter pollution response strategy and associated resources mobilised; • Copies of Press Statement(s) – if available; • Over flight report(s) – if available; • Copy of the current PON1; • Contact details (telephone / email) for the EMT Duty Manager and HSEQ Advisor.	☐
3.	Once in situ at the MRC, contact the EMT Duty Manger and HSEQ Advisor via phone and email to confirm your arrival on location. Pass on the contact details of the MRC - Central telephone number and email address.	☐
4.	Maintain regular contact with the EMT regarding MRC activities.	☐

Op 2.1.6 Preparing for OCU Mobilisation

Preparing for OCU Mobilisation Checklist		
Duty Manager Actions		**Actioned**
1.	If the DECC Inspector announces SOSREP mobilisation it is the responsibility of the Duty Manager to undertake the following actions: • Mobilise the relevant Emergency Operations Manager (EOM) (Premier Duty Manager) and Operators Representative (a second Premier Duty Manager) to the EMR. ☐ • Mobilise an Ensco Emergency Response Duty Manager to assist EOM and Ops Rep to populate the OCU as Ensco Operator Rep; ☐ • Brief the EOM and Ops Rep upon arrival in the EMR and ensure they have all the information required from the HSEQ Advisor. ☐ • Pass them the checklists **Op 2.1.7. Emergency Operations Manager** and **Op 2.1.8 Operator Representative**. ☐ • Initiate the setting up of the designated OCU (SOSREP OCU Room). ☐	
2.	EOM / Ops Rep to have available in advance of SOSREP arrival: • Situation Reports, oil spill modelling forecasts, technical drawings, and options for mitigation of oil release risks, information on strategic supply and production.	☐

Op 2.1.7 Emergency Operations Manager

Emergency Operations Manager (EOM) Checklist		Actioned
EOM position within the OCU will be filled by an off-duty Premier Duty Manager (or delegated functional manager identified according to specific nature of incident).		
1.	Following the initial briefing by the Duty Manager supported by the EC, confirm or acquire the following information from the EMT: • Rig schematics (larger the better); • Well specifications; • Status of assets • Release parameters; • Response undertaken so far with regards to tracking and surveillance; • Response strategy (if determined); • Containment / source control response considerations - see **Op 2.1.9 Containment / Source Control Strategy Template**; • List of agencies contacted; • Copy of the oil spill modelling results; • Surveillance results; • Copy of the log sheet; • Copies of any press releases.	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
2.	Prior to every meeting, meet with the Duty Manager, EC and HSEQ to confirm information acquired is correct.	☐
3.	Once OCU is established ensure effective communication between the OCU and the EMT. OCU email address ocu@decc.gsi.gov.uk	☐
4.	Participate in each briefing as the EOM covering all technical aspects of the incident.	☐
5.	Identify requirements for specific technical support and representation in the OCU and source personnel through the Duty Manager and EC.	☐
6.	Following each OCU brief return to the EMR and brief the Duty Manager, EC and HSEQ Advisor. Forward all requests for information to the Duty Manager and EC for actions and assistance with information gathering.	☐

Op 2.1.8 Operator Representative

Operator Representative (Ops Rep) Checklist		Actioned
The Operators Representative (Ops Rep) position will be filled by a Premier Duty Manager, (as per weekly duty schedule) or their delegate. A Ensco Emergency Response Duty Manager will be mobilised in support and attend the OCU as the Ensco Operator Representative.		
1.	Assist the EOM with tasks 2, 3 and 4 below.	☐
2.	Following the initial briefing by the Duty Manager supported by the EC, confirm or acquire the following information from the EMT: • Rig schematics (larger the better); • Well specifications; • Status of assets • Release parameters; • Response undertaken so far with regards to tracking and surveillance; • Response strategy (if determined); • Containment / source control response considerations - see **Op 2.1.9 Containment / Source Control Strategy Template**; • for template; • List of agencies contacted; • Copy of the oil spill modelling results; • Surveillance results; • Copy of the log sheet; • Copies of any press releases.	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
3.	Prior to every meeting, meet with the Duty Manager, EC and HSEQ to confirm information acquired is correct.	☐
4.	Ensure effective communication between the OCU and the EMT.	☐
5.	Participate in each briefing as the Ops Rep representing the liability and insurance interests.	☐
6.	Communicate through the CERT for additional advice / support as required.	☐
7.	In conjunction with the EOM, identify requirements for specific technical support and representation in the OCU, source personnel through the Duty Manager and EC.	☐

Op 2.1.9 Containment / Source Control Strategy Template

Strategy Considerations	
Short Description	
Method *(high level bullet points of how this will be conducted)*	• • •
Resources *(personnel and equipment)*	• • • • •
Risks and Limitations *(operation parameters, time, weather, equipment availability/ permissions)*	
Timeline *(estimated time and date)*	**Start:** **Finish:**
Results/progress *(as appropriate)*	

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Op 2.2. Onshore Notifications

Op 2.2.1 Regulatory Notifications

In most circumstances, PON1s will be submitted from offshore. However, in the event that the PON1 cannot be submitted by the offshore team, the onshore EMT may be tasked to undertake the submission accordingly.

Ensure the PON1 is updated by either the OIM or onshore EMT as required. Once mobilised, the EMT will continue on-going liaisons with the relevant organisations.

Further telephone contacts and information can be found in **9. Emergency Contacts Directory**

Contact / Notification Requirements	Release Criteria in Tonnes < 1	1 – 25	> 25	Tel No	Fax No
HM Coastguard ●★				ABERDEEN	01224 575920 ABERDEEN
DECC ●★				01224 254058 (OH) 0207 215 3234 / 3505 (OOH)	01224 254100
JNCC ●★				01224 266556 (OH) 07974 257464 (24hrs)	01224 896170
Marine Scotland ●★				0777 073 3423 (24hrs)	01224 295511

Key:

	Submit / update ePON1 via UK Oil Portal[4] https://itportal.decc.gov.uk/eng/fox/live/PORTAL_LOGIN/login		Telephone Immediately
	If the UK Oil Portal is unavailable, revert to submission of PON1 via fax.		
OH	Office Hours	OOH	Out of Office Hours
●	Offshore notifications	★	On-going notifications

[4] ePON1 is automatically received by DECC, JNCC, Marine Scotland and HMCG (Aberdeen) when submitted.

Op 2.2.2 If release may enter 25 and 12 miles of nearest UK coastline

The following notifications are in addition to those detailed in **Op 2.2.1** and should be undertaken by the EMT as part of the on-going liaison with the relevant organisations.

Contact / Notification Requirements	Release Criteria in Tonnes < 1	1 – 25	> 25	Tel No	Fax No
DECC Must be telephoned				01224 254058 (OH) 0207 215 3234 / 3505 (OOH)	01224 254100
JNCC Must be telephoned for release >1 tonne				01224 266556 (OH) 07974 257464 (24hrs)	01224 896170
Scottish Natural Heritage Must be telephoned for release >1 tonne	-			01313 162610 (OH) 07774 161273 (OOH)	john.baxter@ snh.gov.uk 01313 162690
Natural England Must be telephoned for release >1 tonne	-			0300 0601200 (OH) 07659 124846 (OOH Oil Response Pager)	N/A
In addition to the above, notify the relevant SNCA if release may enter 12 mile territorial waters					
Scottish Natural Heritage				01313 162610 (OH) 07774 161273 (OOH)	john.baxter@ snh.gov.uk 01313 162690
Natural England				0300 0601200 (OH) 07659 124846 (OOH) (Oil Response Pager)	0300 060 2126

Key:

	Update PON1 (Refer to **Op 3.6 PON1 Reporting** for further details)		Telephone Immediately
	If the UK Oil Portal is unavailable, revert to submission of PON1 via fax.		
OH	Office Hours	OOH	Out of Office Hours

Op 2.2.3 If release may enter within 3 miles of coastline of nearest UK coastline

The following notifications are in addition to those detailed above and should be undertaken by the EMT as part of the on-going liaison with the relevant organisations.

Agency Contact	Notes	Tel No	Fax No
Relevant Local Authorities	Refer to **Section 9. Emergency Contacts Directory** (Non-Operational Section)		
Scottish Environmental Protection Agency (SEPA) (Scottish waters)	Contact if spill may enter the 3 nm limit.	0800 807 060	Available on request
Environment Agency (EA) (English waters)			

Op 2.2.4 OSRL Notification and Mobilisation

In the event of a Tier 2 or Tier 3 incident mobilisation of an OSRL Technical Advisor should be instigated at the earliest opportunity using the mobilisation procedures below. If OSRL are required, the Premier Duty Manager will authorise the mobilisation of the OSRL.

The OSRL Technical Advisor will work with the EMT to assist in determining the most appropriate counter pollution strategy and identify equipment and resources available and/or required. All OSRL equipment and services are required to be mobilised via Southampton as per the mobilisation procedures below.

Verbal notification via the number below should be made first.

All verbal mobilisations must be followed-up with completed Notification and Mobilisation Authorisation forms.

Copies of these forms can be found on the Oil Spill Response Limited website. http://www.oilspillresponse.com/activation-procedures

Oil Spill Contractor	Notes	Tel No	Fax No
Oil Spill Response Limited (OSRL) Southampton	May request copy of PON1	023 8033 1551 Duty Manager	023 8033 1972

Op 2.3. Onshore Counter Pollution Response Strategy Development

The following provides a high level overview of the overall counter pollution and response actions that should be taken in response to a spill.

Op 2.3.1 Estimate Spill Type, Volume, Fate and Movement

The anticipated oil types present within the Catcher field system is crude. The fate of the oil can differ dramatically depending upon the weather conditions, the type of oil and volumes spilled at the time. Refer to **Op 3.2.6** for expected **Oil Properties** and type.

Type and Volume

It is essential to establish the type and volume of oil spilled to the environment to ensure that the operational response plan being formulated is commensurate to the size of the incident. Efforts must be made to quantify the maximum total volume of oil released to sea and, in the initial stages of an incident, worst case estimates should be used for counter pollution purposes.

All efforts should be made to quantify spill release volumes using operational or production data using offshore or onshore available information.

In the event that offshore measures are unsuccessful, the EMT should mobilise a dedicated aerial surveillance aircraft using Oil Spill Response Limited mobilisation procedures (**Op 2.2.4 OSRL Notification and Mobilisation**) to allow estimation of volume of oil loss, spill movements and fate.

Oil Spill Response Limited can also request satellite images and photographs to help determine volume, fate and movement of oil.

Fate

Note that crude oil released to sea will undergo changes in appearance due to weathering. Thicker patches of crude oil will usually appear as dense black areas, but as emulsification occurs the colour will change to brown and volumes of emulsified oil may increase.

Diesel and base oil will spread out rapidly to form sheen and cannot be easily removed by dispersant or mechanical means. Diesel should naturally disperse within hours.

Light crude oils will take about 1-3 days to naturally disperse, depending on amount released to sea and sea state conditions. Heavier crude oils can take longer to disperse. Both depend on the amount and type of hydrocarbon released and the sea state.

Movement

Offshore efforts will focus on the short term migration of oil requiring a longer term prediction to be undertaken by the onshore team to establish the ultimate fate of the oil. Surveillance and monitoring must be undertaken to verify the location and movement of significant oil slicks.

Oil Spill Modelling

Real time oil spill computer modelling should be requested via Oil Spill Response Limited at the earliest opportunity using known spill volumes, or worst case, if unknown. A range of volumes could be requested to be modelled if spill volumes are unknown. Oil Spill Models are only a tool for predicting the movement and fate of oil. The results must therefore be verified though surveillance and monitoring of the actual spill.

Analysis of the results will be undertaken by Premier and OSRL and then shared with the relevant regulators as part of the strategy planning process.

Op 2.3.2 Assess Environmental and Commercial Sensitivities at Risk

The environmental sensitivity of the location in which the spill has occurred or will impact is a key factor determining the most appropriate response option. Use oil spill modelling results, aerial and local surveillance results and projected forecasts to identify potential or actual areas of impact. An assessment of any environmental and commercial sensitivities should be conducted at the earliest opportunity. Regard should be given to any social and health impacts.

Refer to sections:

- **Op 3.2.9 Marine Protected Areas** for details of the local environmental resources at risk within the vicinity of the release.
- **Op 3.2.8 Environmental & Commercial Sensitivities** for details of vulnerability indexes for the main environmental receptors in the locality of the Block number e.g. seabirds, cetaceans and fish
- **Op 1.2.3 Nearest Installations** for details of the nearest installations who should be informed of any spill threat

In addition, the EMT should engage with government organisations and relevant authorities to acquire additional data/advice and determine any requirements of the authorities.

This should include JNCC, Marine Scotland / MMO, Scottish Natural Heritage, and the Local Authority who should have key information on sensitivities and priorities. Consider any need to contact NGOs such as RSPB, Scottish Wildlife Trust, and Scottish Fisherman's Federation.

JNCC should be requested as to whether they wish to put a bird observer onto any aerial surveillance plane being mobilised.

The following provides guidance on additional resources to obtain environmental and commercial sensitivity information:

- MAGIC environmental information website map: http://www.magic.gov.uk/ - geographic information about the natural environment from across government.
- Scotland's Marine Atlas Website http://www.scotland.gov.uk/Topics/marine/science/atlas - an assessment of the condition of Scotland's seas and coastline, based on scientific evidence from data and analysis, supported by expert judgement.

In the event of a significant incident, specialist advice can be sought from Marine Scotland for fisheries information and the JNCC for seabirds and cetaceans

Op 2.4. Counter Pollution Response Strategy Options

The following counter pollution response options which, in general, have been identified as potential responses which may be deployed following a spill incident from Catcher drilling operations:

1. **Natural Dispersion and Monitoring** - allowing natural processes to break down oil.
2. **Chemical Dispersants** – using chemical dispersants to enhance the natural dispersion of oil into the water.
3. **Containment and Recovery** - concentrate, collect, remove, store and dispose of oil in a controlled manner.
4. **Other Response Options** - other responses used depending on circumstances such as in-situ burning, other chemical or bio-remediation options, and protective booming.

It should be noted that if chemical dispersant is being considered as part of the counter pollution response within the UKCS, DECC must provide advice prior to the use of chemical dispersant use – including test spraying.

Op 2.4.1 Natural Dispersion and Monitoring Guidance

Considerations

- Monitoring of persistent and / or large spills should ideally be carried out using a dedicated surveillance aircraft. Request assistance from OSRL (mobilised through the EMT Duty Manager).
- If the release is not an immediate threat to environmental or commercial sensitivities and surveillance/modelling/experience predicts that it will disperse prior to reaching the coast or without significant impact, the most appropriate response may be to allow it to disperse naturally. This is a credible response option. If suitable, this is the preferred strategy to be implemented for all releases, including that of light oils such as diesel and small crude oil releases where the weather conditions are conducive to aid the natural dispersion of the oil into the environment.
- The equilibrium between rate of natural dispersal and rate of movement towards the coastline is critical in determining the potential for shoreline impact. For heavier crude oils with longer natural dispersion periods and prevailing onshore winds, rates of movement could potentially overtake the process of naturally removing oil from the sea surface and move slicks of spilt oil towards the shore. It is therefore essential to conduct surveillance, monitoring and oil spill modelling to determine progress of natural dispersion or emulsion formation.
- Monitoring should be implemented and continue until oil disperses.
- Note that crude oil released to sea will undergo changes in appearance due to weathering. Thicker patches of crude oil will usually appear as dense black areas, but as emulsification occurs the colour will change to brown.
- Diesel and base oil will spread out rapidly to form sheen and cannot be easily removed by dispersant or mechanical means. Diesel should naturally disperse within hours.
- Light crude oils will take about 1-3 days to naturally disperse, depending on the amount released to sea and sea state conditions. Heavier crude oils can take longer to disperse.

Op 2.4.2 Chemical Dispersant Guidance

The onshore EMT should seek advice from DECC if dispersant is being considered as part of the response strategy. DECC will forward their advice for dispersant usage onto the Premier EMT.

Considerations

Unless Standing Approval has been granted by DECC, DECC must provide advice prior to any planned use of dispersant.

- This strategy should be considered for larger, more persistent hydrocarbon releases and/or releases which have the potential to impact the shoreline or environmental sensitivities. It may also be used when oil is required to be dispersed quickly for safety and/or health reasons.
- Where there is risk of harm to seabirds, the coast or sensitive environments, the use of dispersant is often one of the most effective means of dispersing a crude oil release in an open water environment.
- Effective dispersant application requires accurate spill detection. The slick location, thickness, and movement must be clearly identified and communicated to response managers and operations personnel. Dispersants do not remove the oil, but break it into very small droplets that mix into the upper water column, promoting rapid degradation. Dispersants are used to augment mechanical recovery.
- **Op 3.4.1 Tier 1 Resources** contains details of the dispersant held offshore and whether the Catcher field crudes are amenable to dispersant.
- The Marine Management Organisation (MMO): Act as licensing authority for oil spill treatment products and maintain a list of products at the following link:

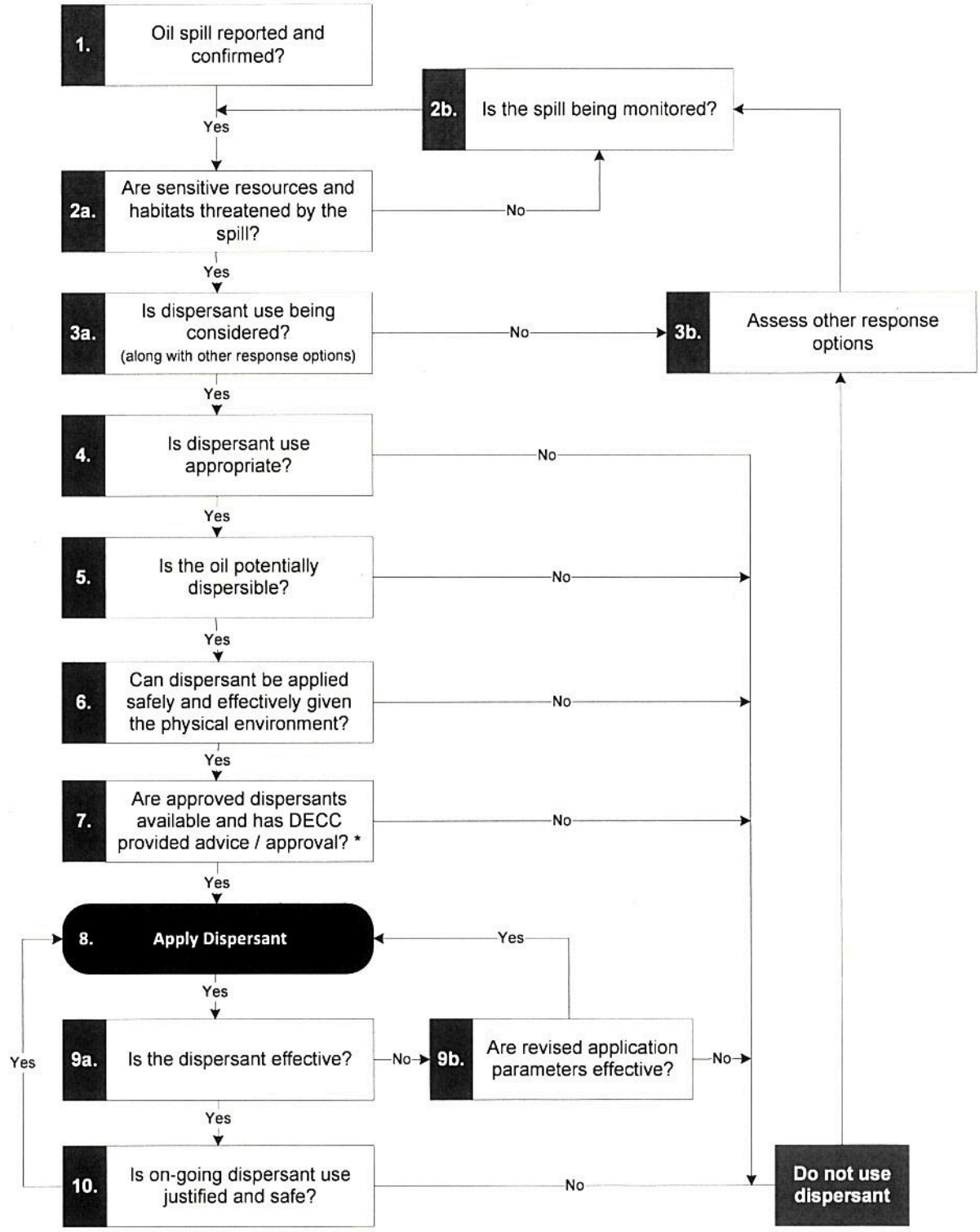
  http://www.marinemanagement.org.uk/protecting/pollution/approval.htm#approvedproducts
- Offshore Emergency Response and Rescue Vessels (ERRV) Application: ERRV maintains a stock of 5 tons of dispersant to be deployed via spray equipment.
- Premier maintains a contract with Oil Spill Response Limited for aerial surveillance and dispersant spraying capability in addition to holding additional stocks of dispersant. Information mobilisation procedures can be found in **Op 2.2.4 OSRL Notification and Mobilisation**.
- If dispersant is identified as a response option – **Op 2.4.3**, **Op 2.4.4** and **Op 2.4.5** should be reviewed and completed to justify and request advice / approval for any planned use of dispersant - the EMT should consult directly with DECC. DECC will consult with the appropriate organisation acting as Environmental Advisor(s) to DECC (Scottish Waters - Marine Scotland and in English and Welsh Waters - Marine Management Organisation).

  Separate DECC approval must be obtained prior to the use of dispersant if:

  a) the release enters or occurs within 1 nautical mile of, waters of 20 metres depth or less.
  b) considerations for subsea dispersant usage.
  c) the dispersant is not being used in accordance with any product approvals, or the conditions of that approval.
- Once consulted DECC will then provide advice / approval to the EMT on the proposed use of dispersant use along with any conditions or requirements that must be met.
- Any use of dispersant must be recorded using **Op 3.5 Record of Dispersant Usage**.

Op 2.4.3 Decision Making Process on Dispersant Use

The flowchart below identifies sequential actions to address during the decision making process regarding the use of dispersants. For defensibility, it is vital that **Op 2.4.4 Decision Elements Guide for Dispersant Use** is referenced and completed.



Op 2.4.4 Decision Elements Guide for Dispersant Use

Prior to the request for advice from DECC for the use of dispersants, consideration must be given to determine if dispersants would be an appropriate response strategy.

Step	Decision Element	Decision	Approved By:	Comments / Remarks
1	Has an oil spill been reported and confirmed? ☐ Have PON1 notifications been made?	Yes No	Time: Date:	
2a	Are sensitive resources and habitats threatened by the spill? Such as: ☐ Marine reserves ☐ Sea birds / mammals ☐ Fish spawing / nurseries ☐ Aquaculture sites ☐ Fishing activities	Yes No	Time: Date:	
2b	Is the spill being monitored?	Yes No	Time: Date:	
3a	Is dispersant use being considered? Dispersant use should be considered if: ☐ Oil likely to significantly impact bird/marine life ☐ Oil likely to significantly impact shoreline ☐ Enhance natural dispersion ☐ Other techniques in adequate ☐ Oil could emulsify	Yes No	Time: Date:	
3b	Are other response options being assessed? Identify which option, or combinations is most appropriate, such as ☐ Natural Dispersion ☐ Protection ☐ Containment and recovery ☐ In-Situ burning	Yes No		

Step	Decision Element	Decision	Approved By:	Comments / Remarks
4	Is dispersant use appropriate? ***Will dispersant use significantly reduce the impact of spilt oil?*** Have environmental trade-offs of dispersant use indicated that use should be considered? Consider: ☐ Type and value of habitat potentially affected ☐ Sensitivities of affected resources to oil, and to different response strategies ☐ Natural recovery rates of affected species and habitats ☐ Likely oil persistency and degradation rates (with and without dispersant use) ☐ Potential oil toxicity of surface species versus water column and/or sea floor	Yes No	Time: Date:	
5a	Is the oil potentially dispersible? Oil is generally dispersible if: ☐ Specific Gravity <0.95 ☐ Pour Point <5.5°C below ambient temperature ☐ Viscosity <10,000 centistokes	Yes No	Time: Date:	
5b	Has a bench scale test been undertaken? (see **Op 1.4.1 Testing Dispersant Efficacy Procedure**)	Yes No		
6	Can dispersant be applied safely and effectively given the physical environment? Consider: ☐ Risk to personnel ☐ Personnel properly trained and briefed ☐ Wind speed, visibility, daylight hours	Yes No	Time: Date	
7	Are approved dispersants available? ☐ Which dispersants are being suggested for use ☐ Is it MMO approved for use? ☐ Has DECC provided advice / approval for dispersant use?	Yes No	Time: Date	

Step	Decision Element	Decision	Approved By:	Comments / Remarks
8	Application of dispersants - has a dispersant operational plan been completed? ☐ Aerial application ☐ Boat application	Yes No	Time: Date	
9a	Is the dispersant effective? ☐ Visual observation is minimum level of monitoring ☐ Visible coffee coloured cloud – dispersant working ☐ Milky white plume - excessive dispersant application and/or dispersion is unsuccessful ☐ Appearance changes of treated slicks indicates dispersion is likely ☐ Boat wakes may physically part oil, falsely indicating successful dispersion	Yes No		
9b	Dispersant not effective? Aspects to consider: ☐ Dispersant formulations ☐ Application ratios ☐ Application methods ☐ Monitoring methods ☐ Monitoring interpretation ☐ Oil weathering ☐ Weather conditions	Yes No	Time: Date	

Step	Decision Element	Decision	Approved By:	Comments / Remarks
10	Is on-going dispersant use justified and safe? **All of the following must apply to justify on-going dispersant use:** ☐ Sensitive values are significantly threatened ☐ The option of no response other than monitoring is inappropriate ☐ There is a significant 'net environmental benefit' from continued dispersion, including being more cost effective and having less adverse impact than other responses ☐ The dispersant is effective ☐ Chemically enhanced dispersion is significantly greater than natural dispersion ☐ Dispersant can be applied safely	Yes No	Time: Date	
	The decision to terminate dispersant operations should be based on: ☐ Monitoring feedback, preferably visual monitoring confirmed by in situ UV fluorometry or similar, indicating that dispersants are no longer effective ☐ No visible change in the appearance of the slick after multiple dispersant applications ☐ The oil being too scattered for the effective or efficient application of dispersant	Yes No	Time: Date	

Additional Comments:

Decisions Approved by:

Date:

Position:

Op 2.4.5 Request for DECC Advice/Prior Approval for Dispersant Use

Use form to collect information to send to DECC when requesting DECC approval for dispersant use.

Request for DECC approval of dispersant use[5] **Installation Information**	
Details for person requesting advice / approval Name / Contact Details	
Name of Responsible Person	
Name / identifier of field(s) / installations	
Location(s) – Quadrant(s) / block(s):	
Details of hydrocarbon type(s) Crude type Specific gravity, wax content, Viscosity, Asphaltene, Pour point (If full details are not available, please confirm and provide the relevant information as soon as possible)	
Dispersant Use Information	
Dispersant type(s):	
Dispersant proprietary name(s):	
MMO approval status:	
Quantity(ies) proposed for use:	
Method(s) of application:	
Have efficacy tests been undertaken to confirm hydrocarbons are amenable to treatment (e.g. bottle tests / test sprays)? If so, what were the results?	
Location(s) of application - Quadrants / blocks:	
Water depth (m) in application area(s)	
Minimum distance (km) from nearest shoreline:	
Minimum distance (km) from nearest median line:	
Environmental sensitivities relevant to location(s) of application (including any protected sites within 20 km):	
Prevailing weather conditions: Wind speed Wind direction Wave height	

[5] It is advised you make copies of this sheet for populating during an incident.

Op 2.4.6 Containment and Recovery Operations Guidance

Considerations

- The use of containment and recovery equipment is a specialist operation and will require the Technical Advisor from OSRL to assist in developing the response plan.
- Significant logistical support will be required by the response team in the form of specialist vessels, storage capability and eventual waste disposal.
- Suitable oil recovery and storage vessels will be sourced and if appropriate deployed. Detailed requirements will be provided by MCA upon request with OSRL ensuring equipment and operations align.
- There are weather limitations to consider. Bad weather limits the effectiveness and can cause safety issues.
- At sea containment and recovery is statistically very inefficient.
- It is only likely to be an option for large spills or an on-going response.
- The authorities are likely to request the operator mounts this type of operation if a spill is on-going and the weather conditions allow.
- Surveillance is also required to monitor the clean-up and to help guide any vessels to the thickest parts of the oil spill.
- Be prepared to recover and deal with any 'Special / Hazardous Waste' that is brought back to the mainland.

Op 2.4.7 In-situ Burning

Whilst in-situ burning is not an approved strategy within the UKCS, the resources and infrastructure required to implement the strategy are available. In-situ burning may be considered as a response strategy in conjunction with regulators and environmental agencies on a case by case basis.

Op 2.4.8 Waste Management and Disposal

The strategies that will give rise to waste disposal are that of Containment and Recovery and shoreline clean up. The types and quantities of waste material largely depend on the amount of oil that reaches the shoreline and the specific clean-up methods employed. In the event of oil being recovered, Premier would either set up or support the dedicated cell designated to manage this aspect. Various contractors are available to lend technical expertise and advice as well as to supply specific recovery and storage equipment.

Shoreline Local Authorities, having accepted the non-statutory responsibility for clean-up operations, will usually undertake the handling and disposal of waste on behalf of Premier.

SEPA / EA will provide advice in relation to the storage of oily waste, will issue waste consignment notes for movement of special waste (Scotland) / hazardous waste (England) to treatment and disposal sites and will advise on suitable disposal routes.

Consultation with the relevant Local Authorities, SEPA and/or EA in the early stages will be an integral part of the waste management plan depending on:

- types and impact locations of oily wastes;
- types, capacity and locations of temporary storage;
- movement and management of wastes;
- treatment of oily and non-oily wastes;
- capacity and location of final disposal facilities, and;
- cost of waste treatment prior to disposal.

Op 2.4.9 Other Response Options

Every incident is unique and depending on the circumstances other response options may be considered or be required to minimise any potential impact on the environment. These may include but not be limited to:

Shore Assessment and Recovery, Shoreline Clean Up and Treatment; Natural Recovery; Manual and Mechanical Removal; Washing, Flushing and Flooding; Sediment Reworking and Surf Washing, transfer and storage of Oily Liquids.

All of above response options would be developed in conjunction with specialist response contractors and appropriate regulatory and advisory bodies, taking into account the circumstances of the incident and the advice and requests of each party.

Op 2.4.10 Wildlife Response

A wildlife response is intended to mitigate adverse wildlife impacts by reducing the number of animals that come in contact with spilled oil, capturing and rehabilitating oiled animals, and removing any impacted. Wildlife response is a specialised skill, and responders must have suitable training before being assigned to wildlife response activities.

In the event of wildlife becoming contaminated, specialist advice should be sought from JNCC as they have statutory duties to assess and monitor (potential) impacts of oil on wildlife in offshore waters. JNCC may require over flight information to assess if, and when, oiled animals may come ashore in Scotland and can offer advice on other suitable organisations. In Scotland the SSPCA is the local wildlife rehabilitation organisation, the role of which would fall under the Environmental Group and can be activated by this group. In England it is the RSPCA. The British Trust for Ornithology could carry out impact assessments on bird populations via shoreline search and collection.

The Sea Alarm Foundation at http://www.sea-alarm.org/about-sea-alarm/ is an organisation specialising in oiled wildlife and could be mobilised within 12-24 hours to assist with the management of this aspect if explicitly requested by the EMT. A Sea Alarm representative can join the EMT as an advisor, if required. Mobilisation can take place via Oil Spill Response Limited.

Op 2.5. Source Control Response Options and Guidance

In the event of an incident involving loss of well control there may be limited actions offshore response personnel can undertake. Response solutions and resources will be sourced via the onshore EMT and CERT in these circumstances.

Op 2.5.1 Loss of Well Control

In the event of a blowout, the decision to drill a relief well will be taken by the Premier Oil Duty Manager following consultation with the UKBU Manager, CERT, well control advisors, well partners and the relevant UK Government bodies (HSE, DECC).

In the event of a well control issue, the Premier Oil Duty Manager would:

- Set up a task force by increasing the number of personnel in the well engineering organisation, as required, based on the situation.
- Instruct the Duty Wells Team Leader and Relief Well Co-ordinator to instigate relief well operations utilising existing drilling processes and procedures.
- Ensure adequate support is given to the task force with regards to sourcing and delivering goods and services to help relief well efforts.

Well Capping	
Response solutions such as well control specialist equipment and capping devices are available as per the **Section 4.3 Well Operations (Non – Operational Section)** and can be activated accordingly. It is likely that remote drilling of a relief well would commence simultaneously with efforts to stem the flow of oil, based upon the well control situation at the time.	
The position responsible for authorising capping operations	Premier Oil Duty Manager
The estimated time required to mobilise and cap the well	Max time – 33 days. For a breakdown of timings and further information refer to **Section 4.3.5 Well Capping and Response Time Estimates** (Non – Operational Section)
Well control specialist contracts	Wild Well Control
Capping device	OSPRAG containment system
A capping device is designed to be compatible with a subsurface BOP. For the information regarding the suitability of a capping device - refer to **Section 4.3.5 Well Capping and Response Time Estimates** (Non – Operational Section).	
Relief Well Drilling	
Will be implemented in the event of catastrophic well failure resulting in an uncontrollable flowing well.	
The position responsible for authorising relief well operations	Premier Oil Duty Manager
The estimated time required to kill the well.	Max time - 81 days. For a breakdown of timings and further information refer to **Section 4.3.2 Relief Well Planning and Response Time Estimates** (Non – Operational Section)
Well control specialist contracts	Wild Well Control

Op 2.5.2 Loss of Subsea Infrastructure Integrity

In accordance with the incident circumstances, a specialist pipeline/subsea engineer - and associated pipeline/subsea team if required - will be mobilised as part of the onshore response to identify and implement source control solutions.

Op 2.5.3 Structural Damage/Collision and Equipment Loss of Vessel Integrity

In accordance with the incident circumstances and as necessary, a marine technical specialist/production/operations engineer will be mobilised. Where required, an associated specialist team will be mobilised as part of the onshore response to identify and implement source control solutions.