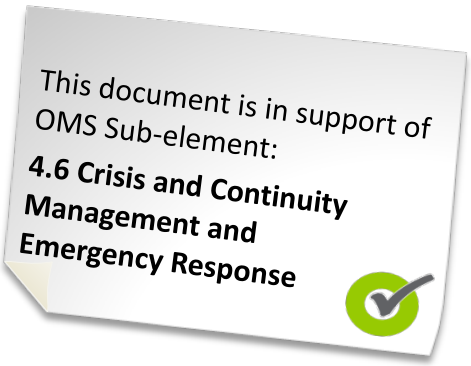


bp Northern Endurance Partnership Bunter Outcrop Borehole

Temporary Operations Oil Pollution Emergency Plan

Issuing Authority (Region Lead or Conformance Tag):	Rob Bly CCM Manager, North Sea	**Document Custodian:**	Fraser Stubbs, Oil Spill & Emergency Response Advisor, North Sea
Document Administrator:	bp IMDC Document Controller	**Applicability:**	Bunter outcrop borehole
Issuing department:	CCM&ER	**Level or control tier:**	4
Primary OMS Sub-element:	4.6	**Other OMS Sub-elements:**	
Old document number:		**First issue date:**	April 2022
Revision number:	Issue 1	**Revision date:**	April 2022
Last review date:		**Next review date:**	April 2023
Revision summary:	First issue of TOOPEP. For further information contact [redacted]		
Document location:	Atlas North Sea/OMS Records Centre		

This document is uncontrolled when printed or saved locally.

ETAP-PLN-4.6-1020

Preface

Document Management and Document Control Procedure

Temporary Operations Oil Pollution Emergency Plans (TOOPEPs) prepared by or on behalf of bp Exploration Operating Company Limited (hereinafter referred to as 'bp') are controlled documents. All copyholders, detailed within the distribution list, are assigned a specific copy number.

This document will:

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

Following consultation with the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED), it has been confirmed that the Northern Endurance Partnership (NEP) Bunter outcrop operations do not fall under SI 1998/No 1056 The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1998 (as amended) and as such, no approved Oil Pollution Emergency Plan (OPEP) is required to be in place. However, as per the obligations conferred by the consents, permissions and licences associated with the borehole operations, bp must ensure that all necessary measures are taken to prevent incidents affecting the environment and have robust, effective and tested emergency response procedures to respond in the event of an accidental release. This document, which aligns with the OPRED OPEP guidance, provides assurance that adequate environmental pollution emergency preparedness and response plans are in place.

It is the responsibility of the registered copyholder to maintain the accuracy of this document. All updates must be promptly inserted and receipt acknowledged.

Distribution list

Holders of controlled copies

Copy	Copyholder	Location
01	Valaris Norway OIM (Hard copy & PDF by email)	Valaris Norway
02	bp Wellsite Leader (PDF by email)	Valaris Norway
03	Document Control (PDF by email)	OSRL, Southampton
04	Data Control Centre (DCC) (Hard copy)	Wood, SIWH
05	ERC Library (Hard copy)	bp, Aberdeen
06	ERC Library (Hard copy)	bp, Aberdeen
07	Valaris ERC (PDF by email)	Restrata, Aberdeen

Glossary of Terms

Name	Description
BAOAC	Bonn Agreement Oil Appearance Code
BEIS	Department for Business, Energy and Industrial Strategy
bpNC	bp Notification Centre
C&CM	Crisis and Continuity Management
CGOC	Coastguard Operations Centre
CRO	Control Room Operator
ERP	Emergency Response Plan
ERRV	Emergency Response and Rescue Vessel
ERT	Emergency Response Team
ETA/D	Estimated Time of Arrival/Departure
ETAP	Eastern Trough Area Project
EUL	Environment Unit Lead
FPSO	Floating, Production, Storage and Offloading
HMCG	Her Majesty's Coastguard
HSE	Health and Safety Executive
Hydrocarbon	As defined in OPRC Regulations: petroleum in any form including crude oil, fuel oil, sludge oil, oil refuse and refined products. As defined in the OPPC Regulations: liquid oil or substitute liquid oil, including dissolved or dispersed oils or substitute oils 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. As defined in OCR Regulations: Oil chemicals, and substitute oil chemicals, controlled under OCR.
ICES	International Council for the Exploration of the Sea
IMT	Incident Management Team
ITOPF	International Tanker Owners Pollution Federation
JNCC	Joint Nature Conservation Committee
MARPOL	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978
MCA	Maritime and Coastguard Agency
MCZ	Marine Conservation Zone
MODU	Mobile Offshore Drilling Unit
MS	Marine Scotland
NCMPA	Nature Conservation Marine Protected Area
NEP	Northern Endurance Partnership
NORBRIT	The Norway and UK Joint Contingency Plan – joint counter pollution operations 50 miles either side of the median line
NPI	Non-Production Installation

Name	Description
NS	NatureScot
NUI	Normally Unmanned Installation
OCR	SI 2002/No 1355 The Offshore Chemicals Regulations 2002
OCU	Operations Control Unit
OH	Office Hours
OIM	Offshore Installation Manager (includes Platform Manager)
OMS	Online Management System
OOH	Out of Office Hours
OPEP	Oil Pollution Emergency Plan
OPPC	SI 2005/No 2055 The Offshore Petroleum Activities (Oil Pollution Prevention and Control) Regulations 2005
OPRC	SI 2015/No 386 The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) (Amendment) Regulations 2015
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OSC	On-scene Commander
OSCAR	Oil Spill Contingency and Response
OSRL	Oil Spill Response Limited
PIC	Performance Improvement Cycle
POB	Persons Onboard
PON	Petroleum Operations Notice
PSV	Platform Supply Vessel
ROff	Response Offshore (Offshore OPEP)
ROn	Response Onshore (Onshore OPEP)
SAC	Special Area of Conservation
SAR	Search and Rescue
SG	Specific Gravity
SNS	Southern North Sea
SOPEP	Shipboard Oil Pollution Emergency Plan (all oil tankers >150 gross register tonnage and vessels >400 gross register tonnage must carry a SOPEP onboard)
SOSI	Seabird Oil Sensitivity Index
SOSREP	Secretary of State's Representative
SPA	Special Protection Area
TOOPEP	Temporary Operations Oil Pollution Emergency Plan
UKCS	United Kingdom Continental Shelf
VOO	Vessel of Opportunity
WCRG	bp Well Control Response Group
WIV	Well Intervention Vessel

Contents

Contents (cont'd)

Contents (cont'd)

Section
1

Operational Section

ROff 1 Offshore Response Action Plan

Refer to the **Response Action Plan Overview** (below) for key response activities in conjunction with the **Offshore Installation Manager (OIM) Response Checklist** (below) for detailed guidance on actions to be undertaken. Further supporting information can be found on the pages listed.

Response Action Plan Overview

Step 1 – Initial Actions

Time	OIM
0 to 20 min	From initial release report: ☐ Establish safety issues ☐ Take initial safety actions ☐ Determine primacy ☐ Take action to stop/isolate release ☐ Establish release parameters ☐ Establish onshore support requirements

Step 2 – Mobilise Resources and Report Release

Time	OIM
20 to 40 min	☐ Mobilise required teams ☐ If necessary, minimise risk to personnel/ platform safety by using Emergency Response and Rescue Vessel (ERRV) dispersant ☐ Undertake mandatory external and internal notifications

Step 3 – Assess, Quantify, Confirm Primacy and PON1 Reporting

Time	OIM
40 to 60 min	☐ Complete and submit Petroleum Operating Notice (PON1) within 6 hours of initial sighting ☐ Assess actual/potential quantity ☐ Determine escalation potential ☐ Confirm primacy, roles and responsibilities

OIM Response Checklist

Step 1 – Initial Actions

Timescale: 0 to 20 minutes (or as soon as reasonably practicable)		Actioned	Page
1	Receive notification of release: location, time, source, cause, hydrocarbon type, quantity, appearance of hydrocarbon, escalation potential and weather. Record details on to the initial data collection sheet, refer to **ROff 1.1 Initial Data Collection Sheet**. Refer to **ROff 1.5 Field Information** for supporting information.	☐	**1-7 1-12**
2	Ensure safety of personnel, as per the Valaris Norway Emergency Response Manual PDR Topsides Hydrocarbon Release – Unignited. For MODU/WIV/accommodation unit operations, use equivalent ERP.	☐	ERP
3	Assume role of On-scene Commander (OSC).	☐	N/A
4	Muster as necessary and suspend all work permits.	☐	ERP
5	If safe to do so, take action to stop release.	☐	ERP
6	Confirm ERRV/Platform Supply Vessel (PSV) is aware of the incident and provide release report.	☐	ERP
7	Notify Coastguard Operations Centre (CGOC). Refer to **ROff 1.2.1 Initial Notifications.**	☐	**1-9**
8	Notify the bp Incident Management Team (IMT) Manager (via the bp Notification Centre (formerly known as Dyce Control Room)), and Valaris Norway onshore, refer to **ROff 1.2.1 Initial Notifications.** Brief them of the situation and confirm the appropriate support required. Use **ROff 1.4 Tier Selection Guide** to determine the tier size. If known, specify if release is from a third-party source.	☐	**1-9 1-11**

Step 2 – Mobilise Resources and Report Release

Timescale: 20 to 40 minutes (or as soon as reasonably practicable)		Actioned	Page
9	Mobilise offshore team members to support response.	☐	ERP
10	If personnel/Valaris Norway safety is at risk, instruct ERRV/PSV to spray dispersant (no endorsement from authorities needed under force majeure). Notify the Dyce IMT and Valaris Norway as soon as possible (refer to **ROff 1.2.1 Initial Notifications**). If dispersant has been sprayed, log the details of the dispersant use within **ROff 1.16.2.2 Record of Dispersant Use.**	☐	**1-9 1-35**
11	Report release as per **ROff 1.2 Notifications.**	☐	**1-9**

Step 3 – Assess, Quantify, Confirm Primacy and PON1 Reporting

Timescale: 40 to 60 minutes (or as soon as reasonably practicable)		Actioned	Page
12	When possible (within 6 hours) complete and submit PON1. Refer to **ROff 1.3 PON1 – Offshore Reporting.**	☐	**1-10**
13	If release source originates from the Valaris Norway and associated subsea infrastructure, quantify volume using **ROff 1.7 Hydrocarbon Inventories and Well Data.**	☐	**1-17**
14	If release source/hydrocarbon quantity is unknown, request ERRV/PSV to estimate release size from appearance. Refer to **ROff 1.8 Release Size Estimation Guide**, **ROff 1.9 Conversion Table** and **ROff 1.10 Bonn Agreement Oil Appearance Code**.	☐	**1-19 1-20 1-21**
15	If unable to quantify, request surveillance flight through the Dyce IMT or utilise an infield crew change helicopter if available.	☐	N/A
16	Confirm primacy and roles and responsibilities between bp, Valaris and any third party with Dyce IMT. Request Dyce IMT to manage handover if required.	☐	**2-6**

CRO/Radio Room and ERRV/PSV Checklist

Step 1 – Initial Actions

CRO/Radio Room	ERRV/PSV
☐ Raise alarm and inform OIM and ERRV/PSV	☐ Raise the alarm by informing the Control Room Operator (CRO)/Radio Room

Step 2 – Mobilise Resources and Report Release

CRO/Radio Room	ERRV/PSV
☐ If applicable, isolate release source ☐ Alert other assets. Refer to **ROff 1.2.3 Additional Notifications** for details of local fixed assets	☐ If requested by the OIM, spray dispersant

Step 3 – Assess, Quantify, Confirm Primacy and PON1 Reporting

CRO/Radio Room	ERRV/PSV
	☐ Locate release and quantify size using **ROff 1.8 Release Size Estimation Guide**

Refer to the **Response Action Plan Overview** (below) for key response activities in conjunction with The **OIM Response Checklist** (below) for detailed guidance on actions to be undertaken. Further supporting information can be found on the pages listed.

Response Action Plan Overview

Step 4 – Tracking and Sampling

Time	OIM
60 to 70 min	☐ Track release ☐ Obtain evidence

Step 5 – Determine Response

Time	OIM
70 to 100 min	☐ Determine actual/potential tier response level ☐ Confirm response co-ordination for tier level ☐ Consider response strategy ☐ Identify resources required

Step 6 – Ongoing Response

Time	OIM
100+ min	☐ Continue to monitor and review response, weather and impact to environment ☐ Keep Dyce IMT updated ☐ Instigate investigation

OIM Response Checklist

Step 4 – Tracking and Sampling

	Timescale: 60 to 70 minutes (or as soon as reasonably practicable)	Actioned	Page
17	Task the ERRV/PSV to track the movement and parameters of the slick. **ROff 1.11 Manual Release Tracking**. If ERRV/PSV unable to track release, request tracking to be done through the Dyce IMT. If crew change helicopter is nearby, consider using to provide an indication of general slick size, direction of travel and colour.	☐	**1-23**
18	If safe to do so direct ERRV/PSV to obtain three hydrocarbon samples using **ROff 1.12 Release Sampling Guide**. Photographs should also be taken of the released hydrocarbon.	☐	**1-24**

Step 5 – Determine Response

	Timescale: 70 to 100 minutes (or as soon as reasonably practicable)	Actioned	Page
19	Identify any obvious environmental or commercial receptors eg birds on or near slick. Cross-reference with environmental data in this plan, refer to **Section 2 Paragraph 5 Receiving Environment.** Inform the Dyce IMT.	☐	**2-13**
20	If the Dyce IMT has mobilised reconfirm tier level. **ROff 1.4 Tier Selection Guide**.	☐	**1-11**
21	If the Dyce IMT has mobilised, ongoing notifications will be undertaken by the IMT. **ROff 1.2 Notifications**.	☐	**1-9**
22	Identify appropriate response strategy (in conjunction with the Dyce IMT if mobilised), **ROff 1.13 Response Strategy Options,** confirm resources available **ROff 1.14 Tiered Response Resources** and **ROff 1.15 Emergency Response Coverage for bp Assets**. Refer to **ROff 1.16 Response Strategy Guidance** for guidance on the chosen response strategy. If release identified as Tier 2 or 3 then primacy regarding co-ordination and strategy becomes the responsibility of the Dyce IMT.	☐	**1-26** **1-27** **1-28** **1-29**
23	Monitor and record any changes to the appearance and/or quantity on the released hydrocarbon. Refer to **ROff 1.8 Release Size Estimation Guide**, **ROff 1.9 Conversion Table** and **ROff 1.10 Bonn Agreement Oil Appearance Code**. Report to the Dyce IMT.	☐	**1-19** **1-20** **1-21**

Step 6 – Ongoing Response

	Timescale: 100+ minutes (or as soon as reasonably practicable)	Actioned	Page
24	If deemed a suitable response or requested by Dyce IMT, utilise dispersant stockpile onboard ERRV/PSV. Before spraying request a test of the amenability of the released hydrocarbon to dispersants **ROff 1.16.2.1 Testing Dispersant Efficacy Procedure**.	☐	**1-33**
25	Continue tracking release using infield additional resources **ROff 1.11 Manual Release Tracking.**	☐	**1-23**
26	If applicable, support Tier 2/3 resources arriving onsite. Maintain proximity primacy protocols.	☐	N/A
27	If aerial surveillance aircraft is mobilised, liaise with aircraft when in area and acquire interim report, update the Dyce IMT.	☐	N/A
28	Review the ongoing response measures with the Dyce IMT to consider the ongoing effectiveness of response operations and the level of threat posed to the environment. Where applicable, obtain supporting information to justify any statements for onward discussion with OPRED by the Dyce IMT.	☐	N/A
29	If safe to do so, commence investigation.	☐	N/A

CRO/Radio Room and ERRV checklist

Step 4 – Tracking and Sampling

CRO/Radio Room	ERRV/PSV
	☐ Track release. **ROff 1.11 Manual Release Tracking** ☐ Take photographs and three hydrocarbon samples

Step 5 – Determine Response

CRO/Radio Room	ERRV/PSV
☐ Keep assets updated (refer to **ROff 1.2.3 Additional Notifications** for details of local fixed assets)	☐ Conduct response as per OIM instructions ☐ Monitor hydrocarbon appearance and re-assess quantity

Step 6 – Ongoing Response

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

ROff 1.1 Initial Data Collection Sheet

The following form is to be completed by the OIM on receipt of initial notification of a release. It can be used as a reference for notifications and when completing the PON1.

Always retain a copy for potential investigative purposes.

Operator and Installation Information				
Date and time of call		Company		
Name of caller		Position		
Contact no		Alternative contact no		
Installation name		Licenced Operator		
Field name		Block number		
Incident Information				
Location of release	Latitude		Longitude	
Date and time of incident				
Distance and direction from nearest land (eg 120km east of Aberdeen)	km			
Distance and direction from nearest median line (eg 9km west of Norwegian median)	km			
Water depth	m			
Confirm date and time of incident		POB		
Incident details: • What has happened? • What is current situation? • What initial actions have been taken?				
Are there any casualties? Be aware of sensitive information		Are any SAR activities ongoing?		
Is caller at scene of the incident? If not, where is information sourced?				
Is there damage to the installation? If yes, provide details				
Have/will Persons Onboard (POB) be downmanned? If so, by how many?				
Has the asset been fully or partially shutdown and/or is there an impact on other installations?				
Confirm what has been released to sea (crude, condensate, diesel etc)				
Confirm quantity currently released. How has this been determined?	tonnes		m^3	

Confirm if release is ongoing. If yes, what is the release rate?			
What is the worst-case release potential? (Max inventory, max flowrate)			
Pollution appearance (rainbow, sheen etc)			
What are the dimensions of the visible release? (Length, width and coverage)			
Is shoreline impact likely? If yes, where and when?			
Is pollution likely to reach median line? If yes, where and when?			
Nearest Installations?			
Have the nearest Installations been notified?			
Wind speed		Wind direction	
Seastate		Wave height	
Response Information			
Has the operator Onshore Emergency Response Team been mobilised? If so, where and when?			
Has aerial surveillance been mobilised or will it be? If yes, give estimated time of arrival (ETA) on scene. If no, how is pollution being monitored?			
What other response resource has been/will be mobilised to assist (Remotely Operated Vehicle, Diving Support Vessel etc)? Provide ETA where possible.			
Is hydrocarbon release modelling being undertaken? If yes, who is conducting modelling and when will results be available?			
Is an impact assessment being undertaken? If yes, by who, and when will it be available?			
Has PON1 been submitted?			
Have samples been taken? Have reference samples been taken? Where are samples being sent for analysis?			
What other agencies have been informed?	MCA ☐	MS ☐	JNCC ☐
	Health and Safety Executive ☐		
	Other ☐		
Other Information			
Agreed time to receive next update and/or any additional information			

ROff 1.2 Notifications

ROff 1.2.1 Initial Notifications

The following notifications are to be undertaken from offshore or, when that is not appropriate, by the bp Dyce Onshore IMT.

Contact	Release Criteria in Tonnes			Tel No	Email
	<1	1 to 25	>25		
Statutory Notification Requirement					
HMCG MRCC will inform Maritime and Coastguard Agency (MCA)	*If release is ongoing			0344 382 0713	[redacted]
OPRED				01224 254058 (Incident Desk OH) 0330 135 0010 (OOH from 1600hrs each working day)	[redacted]
Joint Nature Conservation Committee (JNCC)				01224 266556 (OH) 07974 257464 (OOH)	[redacted]
Marine Scotland (MS)				07770 733423 (Marine Scotland Duty Officer)	[redacted]
bp Notification Requirement					
bp Notification Centre (bpNC) (formerly known as Dyce Control Room) Report all releases to the bpNC and email PON1 to [redacted]				01224 836666	Report all releases to the bpNC and email PON1 to [redacted]
Valaris IMT				01224 937 000 Emergency (Restrata): 01224 646 258	N/A

Key			
Note: All telephone notifications must be made without delay and within one hour. All electronic PON1 submissions must be made within 6 hours.			
	Submit ePON1[1] via UK Energy portal https://itportal.beis.gov.uk/eng/fox/beis/BEIS_LOGIN/login		Telephone Immediately
	If the portal is unavailable then the PON1 should be emailed to HMCG, BEIS, JNCC and Marine Scotland at the following email address: BEIS – [redacted] HMCG MRCC– [redacted] JNCC – [redacted] Marine Scotland – [redacted]		
OH	Office Hours	OOH	Out of Office Hours

ROff 1.2.2 If Release is within or may enter within 40km of UK Shoreline

If the release is greater than 1 tonne and within (or may enter) 40km of the nearest UK shoreline, further notifications are required to be undertaken. The Dyce IMT will make these notifications. Refer to **Onshore Oil Pollution Emergency Plan (UK-PLN-4.6-1002)** for details.

ROff 1.2.3 Additional Notifications

Additional notifications to third party operators and neighbouring installations may be required depending on the release source and the direction of travel. Contacts for the nearest Installation is provided below.

Operator	Asset	Distance* (km)	Bearing*	Contact Number
Alpha Petroleum	Kilmar NUI	18	N	+44 (0)1483 307200

*Distances and bearings given above are relative to the NEP Bunter outcrop shallow borehole.

ROff 1.3 PON1 – Offshore Reporting

Log into the UK Energy Portal to access electronic PON1s via the Integrated Reporting Service using the following link: https://itportal.beis.gov.uk/eng/fox/beis/BEIS_LOGIN/login.

Alternatively, submit PON1 via email to JNCC, BEIS, Marine Scotland and HMCG MRCC. Refer to **ROff 1.17 Example PON1 Email Form**. Refer to **ROff 1.2 Notifications** for relevant email addresses.

1 ePON1 is automatically received by JNCC, BEIS, CGOC and Marine Scotland when submitted via the UK Energy Portal Integrated Reporting Service (IRS). Refer to the IRS Guidance (Nov 2021) and IRS Screenshot Guidance.

ROff 1.4 Tier Selection Guide

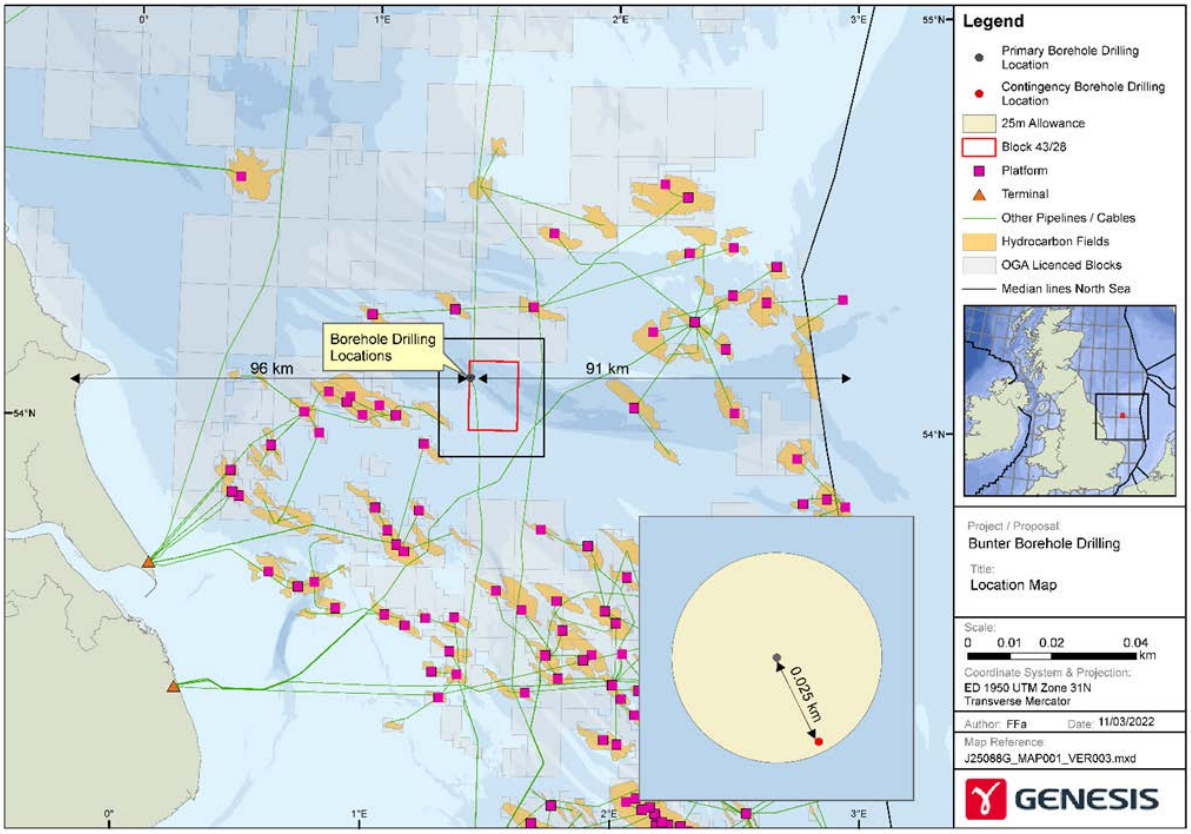
The Tier Selection Guide below assists the decision-making process to determine the appropriate tier response level for a hydrocarbon release to sea. The method of response will depend upon several factors including, but not limited to, the incident in question, volume of hydrocarbon, hydrocarbon type, time of year, weather, seastate and resource availability.

Refer to **ROff 1.14 Tiered Response Resources** for additional information of available resources.

Tier Selection Guide		
Tick the boxes next to all the criteria that apply. Add up the total number of ticks per tier. Report the tier size as the one with the most ticks. If there are an equal number of ticks in two tiers, select the higher of the tiers.		
Tier 1		
Actual slick size	Small (silver/rainbow sheen within 500m zone)	☐
Potential release volume	Small (volume <0.5m^3)	☐
Ongoing	No	☐
Part of wider emergency	No	☐
Shoreline impact likely	No	☐
Hydrocarbon very persistent	No	☐
Tier 2		
Actual slick size	Medium (silver/rainbow sheen outwith 500m zone)	☐
Potential release volume	Medium (volume 0.5 to 25m^3)	☐
Ongoing	No	☐
Part of wider emergency	No	☐
Shoreline impact likely	No	☐
Hydrocarbon very persistent	Yes	☐
Tier 3		
Actual slick size	Large/ongoing (metallic sheen or black hydrocarbon outwith 500m zone and/or ongoing)	☐
Potential release volume	Large/ongoing (volume >25m3)	☐
Ongoing	Yes	☐
Part of wider emergency	Yes	☐
Shoreline impact likely	Yes	☐
Hydrocarbon very persistent	Yes	☐

ROff 1.5 Field Information

Endurance and Bunter Outcrop Field



Well type	Geotechnical shallow well/borehole
Well number	N/A
Block number(s)	43/28
Latitude	54° 07' 34.327"N
Longitude	1° 24' 19.647"E
Spud date (earliest)	27 April
Duration of drilling	45 days
Well depth	340m below mud line
Well length	c. 340m
Water depth	Between 66.7m LAT and 67.3m LAT
Dutyholder/Operator	bp Exploration Operating Company Limited
Licence Holder	bp Exploration Operating Company Limited
Tier 1 Response Primacy	Valaris Norway OIM/Valaris
Tier 2 or 3 Response Primacy	bp IMT
Nearest UK Protected Area	Southern North Sea SAC (summer area) (0km); Dogger Bank SAC (30km)

Nearest points of land from the NEP Bunter outcrop borehole	UK	96km
	Netherlands	248km
Nearest Installations	**Field**	**Distance/Bearing**
	Trent	25km NE
	Kilmar NUI	18km N
	Garrow NUI	31km NW
	Babbage	21km SW
	Hoton	38km SSW
	Ravenspurn North CC	22km WSW
	Ravenspurn North ST2	25km WSW
	Ravenspurn South A	30km W
	Ravenspurn South B	34km W
	Ravenspurn South C	38km W
Nearest Trans-boundary Line:	91km (Netherlands median line)	
Hydrocarbon types	N/A	
Maximum hydrocarbon inventory	924.5m^3 diesel storage capacity onboard Valaris Norway	
Territorial waters	English	
Associated fields	N/A	
Contact number	(Valaris Norway OIM)	
Pollution Response Contractors	Oil Spill Response Ltd Briggs Environmental Services	

ROff 1.5.1 Hydrocarbon Properties[2]

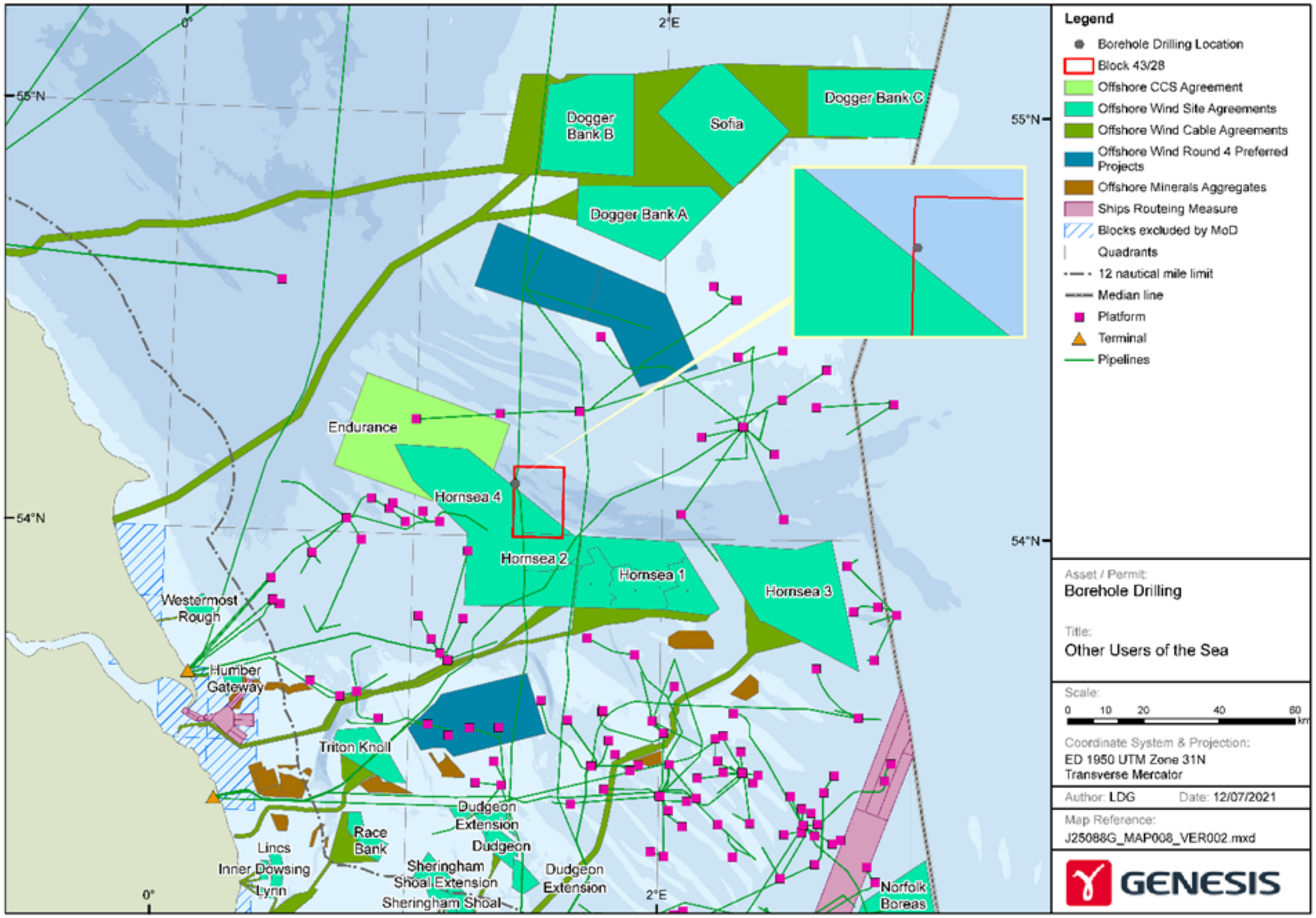
Specific Gravity									
Light <0.8		0.8 to 0.85				0.85 to 0.95		Heavy >0.95	
		Diesel (0.843)							
ITOPF Group I		ITOPF Group II				ITOPF Group III		ITOPF Group IV	
Viscosity (cP) at 40°C (unless otherwise stated)									
0.34	0.22	Thin 0.11	3.9	4.1	4.2	4.3	4.6	27	34
Pour Point (°C)									
Light -36	-10	-9	-6	-3	Medium 0°C		+6	Heavy +20	
Asphaltene Content – Percentage Weight									
≤0.05 unlikely to emulsify		0.06	0.09	0.5 may form an emulsion		0.7	0.1	1	1.5
Wax Content – Percentage Weight									
<1	2	4	6	7.5	8		10	22	

Refer to **Section 2 Paragraph 4.3 Hydrocarbon Characteristics and Fate of Hydrocarbon** for further details on the hydrocarbons detailed in the table above.

2 The Northern Endurance Partnership is formed to develop the East Coast Cluster CCS offshore carbon dioxide (CO_2) transport and storage infrastructures. A shallow gas assessment was completed and the risk of encountering shallow hydrocarbon/gas at the proposed borehole location is negligible. Any potential hydrocarbon release risk is associated with the Valaris Norway when working at the proposed location.

ROff 1.6 Field Diagram

Refer to **ROff 1.7 Hydrocarbon Inventories and Borehole Data** for specific hydrocarbon inventories. The field diagram below shows proximity to existing infrastructure and seabed leases.



ROff 1.7 Hydrocarbon Inventories and Borehole Data

The NEP is formed to develop the East Coast Cluster CCS offshore carbon dioxide (CO_2) transport via pipelines and storage infrastructures at the Endurance offshore store. A shallow gas assessment was completed and the risk of encountering shallow hydrocarbon/gas at the proposed NEP borehole location is negligible. Any potential hydrocarbon release risk is associated with the Valaris Norway when working at the proposed location.

ROff 1.7.1 Valaris Norway Inventories

Source	Type	Volume/Capacity
Rig hydrocarbon inventories	Diesel storage tank 9C	234.6m^3
	Diesel storage tank 13C	389.6m^3
	Diesel storage tank 14C	244.8m^3
	Service Tank 1	25.3m^3
	Service Tank 2	25.3m^3
	Emergency Generator	4.9m^3

ROff 1.7.2 NEP Bunter Outcrop Borehole Data

Title	
Project description	Drilling and abandonment of shallow geotechnical borehole
Well type	Shallow geotechnical borehole
Well number	N/A
Block number	43/28
Latitude of top-hole location	54° 07' 34.327"N
Longitude of top-hole location	1° 24' 19.647"E
Spud date (earliest)	27 April 2022
Duration of the intervention	c. 45 days
Well depth	340m below mud line
Well length	c. 340m
Worst-case unconstrained well flow (blowout) rate	N/A
Water depth	Between 66.7m LAT and 67.3m LAT.
Dutyholder/Operator	bp Exploration Operating Company Limited
Primary responder	Valaris Norway OIM
Primary support	bp Exploration Operating Company Limited
Intervention vessel	Valaris Norway
Intervention contractor	Valaris

Nearest points of land	UK		96km
	Netherlands		248km
Nearest Installations	**Field**	**Bearing**	**Distance**
	Trent	NE	25km
	Kilmar NUI	N	18km
	Garrow NUI	NW	31km
	Babbage	SW	21km
	Hoton	SSW	38km
	Ravenspurn North CC	WSW	22km
	Ravenspurn North ST2	WSW	25km
	Ravenspurn South A	W	30km
	Ravenspurn South B	W	34km
	Ravenspurn South C	W	38km
	Trent	NE	25km
Nearest Trans-boundary line	91km (Netherlands median line)		
Hydrocarbon types	N/A		

ROff 1.8 Release Size Estimation Guide

Use the release size estimation guide below with **ROff 1.10 Bonn Agreement Oil Appearance Code**. A working example can be found in **ROff 1.8.1 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 hydrocarbon colour and its thickness using **ROff 1.10 Bonn Agreement Oil Appearance Code**. Observations can be made from an installation, ERRV, crew change helicopter or dedicated aerial surveillance aircraft.

Step 1 **Total area: estimate total size of the area as a square or rectangle (inkm^2).**

Total Area =	Average width (km)		x	Average length in (km)		=	km^2

Step 2 **Hydrocarbon release area: assess the area affected by the slick inkm^2 calculated as a % of the total area (eg 90% of 20km^2 = 18km^2).**

Hydrocarbon Release Area (Estimated)km^2:	km^2

Step 3 **Calculate area by colour: estimate the area covered by each colour of hydrocarbon as a % of area affected inkm^2 (eg 60% silvery, 40% metallic = 10.8km^2 and 7.2km^2 respectively).**

Colour	Code	Minimum (m^3/km^2)	Maximum (m^3/km^2)	Step 3	
				% of Area Affected	Area Covered km^2
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	4	50	200		
Continuous True	5	200	>200		

Calculation for Area Covered: This should be calculated for each code to give Area Covered by Colourkm^2 = Area/100 x % of Area Covered.

Step 4: **Calculate quantity by colour: multiply the area covered by each colour (minimum and maximum) by the appropriate quantity of hydrocarbon in the table (eg 10.8km^2 x 0.04 and 0.3 for silvery and 7.2km^2 x 5 and 50 for metallic).**

Colour	Step 3 as above	Step 4	
	Area Covered km^2	Min Volume (m^3)	Max Volume (m^3)
Oil Sheen Silvery			
Oil Sheen Rainbow			
Oil Sheen Metallic			
Discontinuous True			
Continuous True			

Step 5: **Total quantity: add all the quantity by colour figures to get total quantity of hydrocarbon in m^3.**

Total Volume (m^3)	Min Volume (m^3)	Max Volume (m^3)

Step 6: **Conversion: if necessary you can convert m^3 to tonnes by multiplying total quantity in m^3 by the Specific Gravity (SG) of the released hydrocarbon. Refer to ROff 1.5.1 Hydrocarbon Properties for SG of hydrocarbons).**

Total Volume in Tonnes (m^3 x SG)	Min Volume (t)	Max Volume (t)

ROff 1.8.1 Release Size Estimation – Example

Average width	5	km
Average length	4	km
Total area (width x length)	20	km^2
Oil release area (estimate)	18	km^2

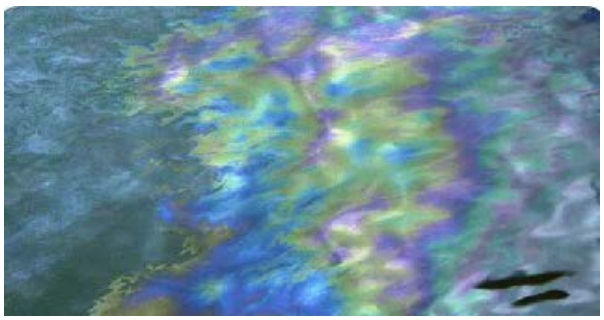
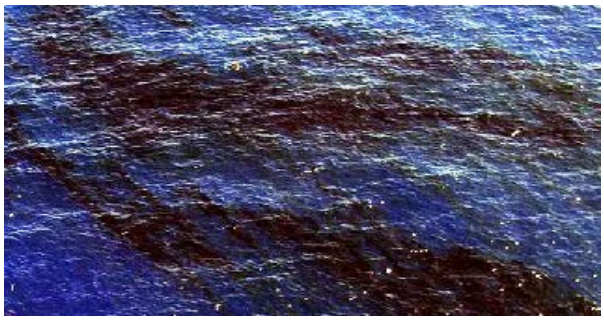
Colour	Code	Minimum (m^3/km^2)	Maximum (m^3/km^2)	% of Area Covered	Area Covered km^2
Oil Sheen Silvery	1	0.04	0.3	60%	10.8km^2
Oil Sheen Metallic	3	5.0	50	40%	7.2km^2

Colour	Area Covered km^2	Minimum Volume (m^3)	Maximum Volume (m^3)
Oil Sheen Silvery	10.8km^2	0.432m^3	3.24m^3
Oil Sheen Metallic	7.2km^2	36m^3	360m^3
Total Volume (m^3)		36.4m^3	365m^3

ROff 1.9 Conversion Table

Conversion from	Quantity	Conversion to	Quantity
Kilometres (km)	1	Nautical Mile (nm)	0.539
Statute Mile (mi)	1	Nautical Mile (nm)	0.868
Barrel (US Petroleum) (bbl)	1	Litre (litres)	158.987
Barrel (US Petroleum) (bbl)	1	Cubic metre (m^3)	0.159
Cubic metre (m^3)	1	Gallon (US Liquid) (gal)	264.172
Gallon (US Liquid) (gal)	1	Litre (litres)	3.785
Gallon (UK Liquid) (gal)	1	Litre (litres)	4.546
m^3 to tonnes = (m^3 x SG)		Tonnes to m^3 = (t/SG)	

ROff 1.10 Bonn Agreement Oil Appearance Code

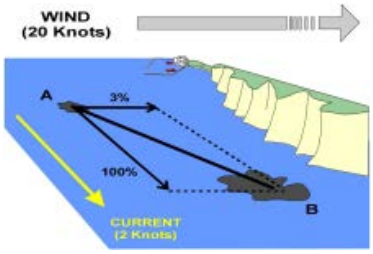
Bonn Agreement Oil Appearance Code (BAOAC)	
Image	**Code**
	**Code 1** Oil Sheen Silvery % of area affected_____%
	**Code 2** Oil Sheen Rainbow % of area affected_____%
	**Code 3** Oil Sheen Metallic % of area affected_____%
	**Code 4** Discontinuous True Colours % of area affected_____%
	**Code 5** True Colours % of area affected_____%

Bonn Agreement Oil Appearance Code (BAOAC)	
Code	**Description**
Code 1 Oil Sheen Silvery (<0.3µm)	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 to 5.0µm)	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 to 50µm)	Although a range of colours can be observed (eg 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 Colours (50 to 200µm)	For oil slicks thicker than 50µm 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 True Colours (>200µm)	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.

ROff 1.11 Manual Release Tracking

To be undertaken by the ERRV or Vessel of Opportunity (VOO).

Manual Calculation of Surface Release Trajectory	
A hydrocarbon slick on the sea surface will move under the influences of: • Wind speed/direction at 3% of the speed and the direction the wind is blowing from • Current speed and direction at 100% of the current speed and 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 hydrocarbon.	
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 an 8-hour elapsed period and tidal bearing and 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.



Release 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 (knots)								
Tidal bearing (°)								
Tidal speed (knots)								

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:	

ROff 1.12 Release Sampling Guide

A sample should be taken of the release hydrocarbon if it is safe and practicable to do so. Any sampling should be in accordance with the MCA Sampling Guidance STOp 4/2001. bp must, if seastate and vessel operating restrictions allow, comply with any request from OPRED or the MCA to obtain sea surface samples of oil and to arrange for the subsequent analysis or facilitate the transportation to any location specified by OPRED and/or the MCA. The OIM should request the Master of the ERRV to collect a sample of the hydrocarbon using the sampling kit provided. Advice on the collection and handling of hydrocarbon samples is given in the table below.

General Guidance
• Refer to the **Oil Spill Sampling Guidelines** in the sampling kit if applicable • Avoid contamination of the sampling equipment with other sources of hydrocarbons • Use gloves supplied when undertaking sampling
Number of Samples Required
Three samples of oil from the sea surface will be obtained if it is appropriate and deemed safe to do so. The samples must be retained for the following purposes: 1. For analysis specified by OPRED or MCA. 2. To be retained by the Responsible Persons for evidential purposes if required. 3. Retained by the Responsible Persons for their purpose. MCA/OPRED will advise the actions that should be taken with regards to any samples that have been obtained.
Frequency of Sampling
• Offshore – A minimum of one set of samples per slick per day where possible • Onshore – Representative samples from the shoreline, in discussion with MCA's Counter Pollution Branch
Size of Sample
• Fresh hydrocarbon: 10ml • Hydrocarbons exposed to sea surface and forming water-in-oil emulsion: 10ml • Overside water discharge (suspected of >100ppm): 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 hydrocarbon off the surface of the water, ensuring maximum hydrocarbon content and minimum water (a bucket with a hole may be required to collect the sample initially to drain excess water) • Any collection of lumpy tar/waxy pollutant should be placed directly into sample containers, with no attempt to heat or melt these samples • Hydrocarbon collected which is attached to floating debris and seaweed should be placed along with the debris/seaweed, directly into the sampling container • Sample containers should be sealed as soon as possible to minimise the evaporation of the hydrocarbon's higher fractions

Container Sealing, Packaging and Transporting

- Sample containers should be glass with a large neck, a screw cover and a seal that cannot be affected by hydrocarbon, eg 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. UN-approved fibreboard 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
- Arrange for transportation of the samples to the laboratory as soon as possible

Labelling

Each sample should be clearly labelled with:

- An identifying number consisting of the date (YY/MM/DD) and the initials of the official in charge of taking the samples eg 02/04/12/JS = sample taken on 12 April 2002 by John Smith
- A description of the sample
- Location that the sample was taken from
- Date and time of sampling
- Purpose for which the sample was taken
- If known, the suspected source, eg name of drilling rig
- Whether or not dispersants have been used and, if known, their type and make
- The method of sampling used
- Name, address and telephone number of person taking sample and of anyone witnessing the sampling being done
- Additional information that would be useful includes:
  - Wind direction and velocity
  - Air and water temperature
  - Sample descriptions ie viscosity, colour and contaminants
  - Description of the hydrocarbon release ie distribution and consistency

Analysis

The first sample should be retained and stored in accordance with MCA Sampling Guidance STOp 4/2001 until advised by OPRED or MCA.

The second sample should be retained by bp and stored for evidential purposes.

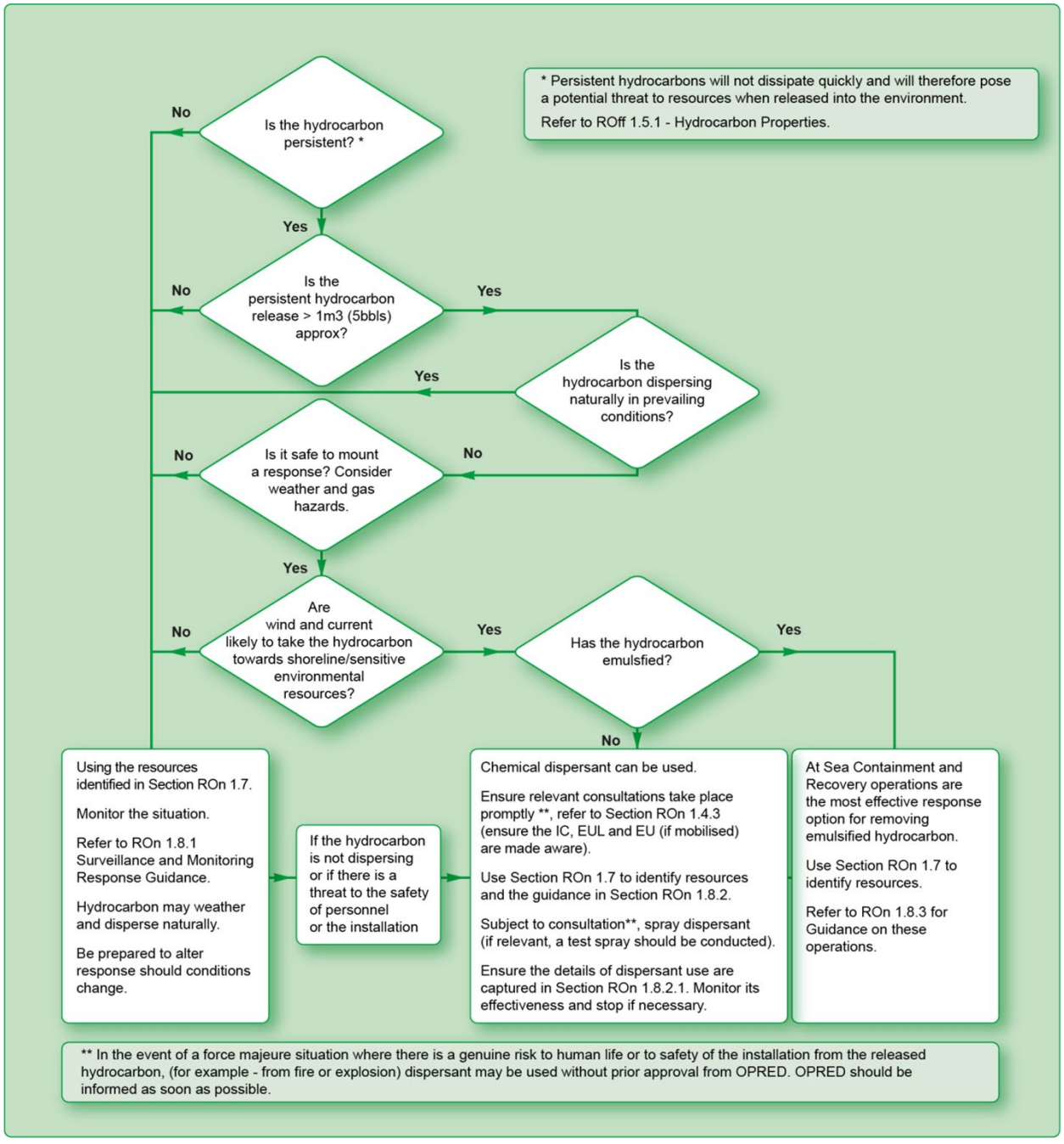
The third sample should be sent to the following address for analysis:

Fugro ERT, Gait 8, Research Park South, Heriot-Watt University, Edinburgh, EH14 4AP
Tel: +44 (0) 131 449 5030

ROff 1.13 Response Strategy Options

Response strategy options are to be confirmed in conjunction with Dyce IMT.
Refer to **Section 2 Paragraph 7.7 Available Response Strategy Options** for additional supporting information.

ROff 1.13.1 Counter Pollution Response Options



BP34101_001.ai

ROff 1.14 Tiered Response Resources

Resource	Response Location	Strategy and Capability	Response Time	Mobilised by
Tier 1 Onsite (mobilised and co-ordinated by the OIM)				
Surveillance				
ERRV/PSV	Incident location	ERRV Surveillance	Immediate	OIM
Dispersant Spraying (not applicable to condensate/diesel)				
ERRV	Dedicated ERRV to be confirmed on the day	Dispersant type carried onboard is Type 2/3. Dispersant volume to be confirmed on the day depending on ERRV available. Type 2/3 dispersant on board the ERRVs is a minimum of 2 tonnes and maximum volume of 10 tonnes	ERRV – Immediate	OIM
Tier 2 Regional and Tier 3 National (mobilised and co-ordinated by the onshore response team)				
Dispersant Spraying (not applicable to condensate/diesel)				
bp Platform Supply Vessel (PSV)	PSV when in Region	2m^3 of type 2/3 dispersant	PSV – to be confirmed on the day	OIM
ERRV	Surrounding fields	Type to be confirmed on the day	Dependent on availability	IMT
Oil Spill Response Contractor Capability				
Tier 2 and 3 response services such as the United Kingdom Continental Shelf (UKCS) aerial surveillance service and aerial dispersant capability is provided by Oil Spill Response Limited (OSRL). For more details on these services including specific response times please follow the link below. Response time for aerial surveillance is 4 to 6 hours. Response time for Tier 2 aerial dispersant spraying is maximum 6 hours. http://www.oilspillresponse.com/activate-us/ukcs-capability-statement				Incident Commander Sign-off (Dyce IMT)
Containment and Recovery				
OSRL	Various UK locations	Offshore booms and skimmers. Various types depending upon weather and oil condition	48 hours	IMT
Briggs Environmental Services	Aberdeen	Offshore booms and skimmers. Various types depending upon weather and oil condition	48 hours	IMT

Resource	Response Location	Strategy and Capability	Response Time	Mobilised by
Surveillance				
bp PSV	PSV when in Region	PSV surveillance	PSV – to be confirmed on the day	IMT
Aerial surveillance	OSRL	UKCS surveillance aircraft	To be confirmed on the day	IMT
Satellite Surveillance	OSRL	Radar imaging capability and optional visual capability	To be confirmed on the day	IMT
Shoreline Response				
OSRL	Various UK locations	Shoreline and inshore response equipment	18 hours to Aberdeen	IMT
Briggs Environmental Services	Aberdeen	Shoreline and inshore response equipment	24 hours	IMT

ROff 1.15 Emergency Response Coverage for bp Assets

The Endurance and Bunter outcrop area is covered by the Coastguard Search and Rescue Helicopter based at Humberside. The primary role of the Coastguard is rescue and recovery. The OSRL aircraft should be mobilised in the event of a hydrocarbon release to conduct aerial surveillance.

The Endurance and Bunter outcrop area is also covered by a dedicated ERRV which has a fast rescue craft and dispersant application capability. The dispersant type carried onboard is Type 2/3 with quantity ranging between 2-10 tonnes.

Note: The exact amount and type of dispersant is dependent on the ERRV and can be confirmed at the time.

ROff 1.16 Response Strategy Guidance

ROff 1.16.1 Surveillance and Monitoring Response Guidance

Surveillance and Monitoring Response
• Monitoring of large releases should be carried out using a dedicated surveillance aircraft. If a surveillance aircraft is required, this will be mobilised by the Dyce IMT • For smaller hydrocarbon releases, a VOO should be used to help identify heaviest concentrations of oil using the BAOAC • All vessels in close proximity to hydrocarbon release should conduct continuous gas monitoring and only proceed if safe to do so • Follow patches of heaviest oil concentration and watch and report on breakup of slick • Determine and report direction of movement of other oil patches. Note and report to the Dyce IMT the movement of oil towards sensitive environmental resources • Watch for and report any large flocks of birds on the sea surface. Report back to the IMT with numbers of oiled birds and species • Determine progress of natural dispersion or emulsion formation. Note that crude oil hydrocarbon released 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 may change to brown • Condensate may naturally disperse rapidly, within hours • Diesel and base oil will rapidly spread out to form a sheen and it is probable that releases will naturally disperse over time • Light crude oils will take about 1 to 3 days to naturally disperse, depending on the amount spilt and sea state conditions. Heavier crude oils will take longer to disperse, depending on the type of oil, the amount spilt and sea state conditions • Advice on this strategy can be sought through the Dyce IMT

ROff 1.16.2 Dispersant Spraying Operations Guidance[3]

Note: Light oils such as diesel are expected to quickly evaporate and naturally disperse within the marine environment; therefore, chemical dispersion is not considered a viable or suitable response option but will be retained as an option if required and agreed with relevant authorities.

Dispersant Spraying
The application of dispersant assists and accelerates the process of natural dispersion. If the Dyce IMT is considering using dispersant they must consult directly with OPRED, and ensure that OPRED has provided non-objection to bp prior to use. During this consultation, the Environment Unit Lead (EUL) should complete the OPEP Guidance F.1 Table Information Required if Seeking Advice or Prior Approval on Dispersant Use[4] and submit this to the OPRED inspector. Dispersant can be deployed from the ERRV/PSV and OSRL's aerial dispersant aircraft (Tier 2/3 response contractor). The dispersant type has been selected based on laboratory weathering and dispersibility tests, dispersant supply and available application methods in the UKCS, and with reference to industry best practice, in particular the IPEICA/OGP Joint Industry Practice Guidelines[5].
Considerations
• All vessels in close proximity to the hydrocarbon release should conduct continuous gas monitoring and only proceed if safe to do so • Chemical dispersants are not recommended for use on releases of condensate or diesel[6] • 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 hydrocarbon mix • Upper wind speed limit for spraying is 25 to 30 knots. Wind speeds stronger than this will cause the dispersant to be blown off target • 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 oil once it has been at sea for a long period of time

3 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 hydrocarbon (for example from fire or explosion), dispersants may be used without prior approval from OPRED. OPRED should be informed as soon as possible.

4 Guidance Notes for Preparing Oil Pollution Emergency Plans for Offshore Oil and Gas Installations and Relevant Oil Handling Facilities, Revision 6, September 2021.

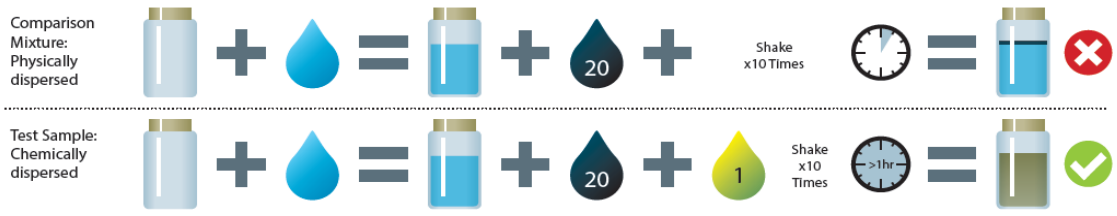
5 http://www.oilspillresponseproject.org/response/dispersants/ (last accessed 17/01/2017).

6 In the unlikely event that diesel will not disperse naturally, and depending on the nature and location of the release, chemical dispersant may be considered. OPRED must be consulted and approve the use of dispersant on diesel.

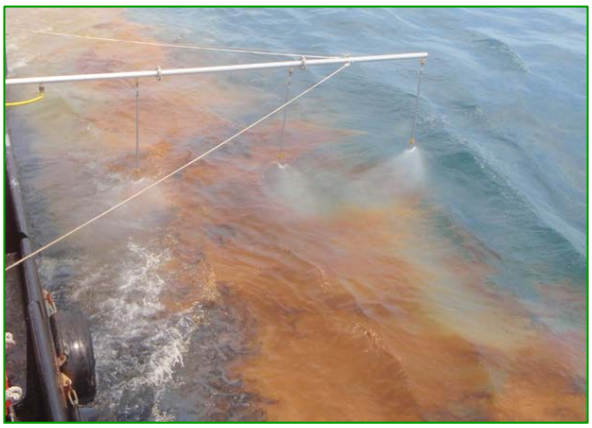
Application
• Hydrocarbon to dispersant ratio should be 20:1, ie 20m^3 of hydrocarbon should be dispersed by 1m^3 of dispersant. Depending upon the hydrocarbon type and dispersant being used, this ratio may need to be revised • Ensure correct use of dispersant such as neat application or dilution with water. This will depend upon dispersant type (Type 2 or 3) and type of application equipment onboard the ERRV/PSV • 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' plume in the water. The dispersion will vary in colour between dark and light brown • If too much dispersant is being applied, a milky white plume will appear close to the surface of the water, which indicates the dispersant is not being effective and spraying should stop. Inform the OIM/Dyce IMT • Observe all applicable safety advice and precautions when using dispersants • Monitor the effects and report observations to the Dyce IMT as this may influence subsequent response strategies. Do not attempt to spray diesel, very viscous or semi-solid oils (unless in the event of a force majeure situation) • Keep full log of dispersant use and application times. Complete **ROff 1.16.2.2 Record of Dispersant Use** and **F.2 Table: Information to be Recorded when Using Dispersant**

ROff 1.16.2.1 Testing Dispersant Efficacy Procedure

Testing dispersant efficacy procedure is to be undertaken by the ERRV. Dispersant application is not recommended for releases of condensate or diesel. OPRED must give non-objection in writing for dispersant use prior to a test spray being undertaken (unless in the event of a force majeure situation).

Step	Action
1	**Conduct a basic field dispersant effectiveness test** – Test the amenability of the released hydrocarbon to dispersants following the sampling of the slick. This should be done as quickly as possible after taking the sample. **Tools Required:** 2x clear glass containers (with lids) Plastic bottles are not adequate as the oil will adhere to the plastic and affect your results Seawater Dispersant (small quantity) Oil (same that has been released, or potentially released) Pipette (optional) The test should be carried out as follows (instructions bellow cover one control sample for comparison and one test sample): 1. Take one glass jar and fill 3/4 with seawater. 2. Add 20 drops of oil to the water using the pipette, or if not available gently pour a small amount to cover the water surface to about 1mm thickness. 3. Cap the jar and shake the oil and water mixture lightly about 10 times. 4. The oil and water should not mix very well and the droplets should rise to the surface quickly leaving the water fairly clear. This is your comparison mixture. 5. Take the second clean jar and repeat steps 1 to 3, but also add one drop of your dispersant to the mixture before shaking. This is your test sample. 6. The oil and water mixture should now mix to form a cloudy mixture in the jar, with very small droplets that rise to the surface very slowly (>1hr) if left undisturbed. 7. Compare your comparison mixture with the test sample. If the dispersant is effective you should see a marked increase in water cloudiness and less surface oiling. The greater the difference the more effective the dispersant, if the two jars show similar clarity dispersant has not been effective and alternative strategies should be explored.  Pictures and text courtesy of Oil Spill Response Limited, Vessel Dispersant Application Field Guide, Version 1, 2011.

Step	Action
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 hydrocarbon to dispersant.
3	**Conduct a test spray** – Identify a patch of continuous true coloured hydrocarbon as defined in the BAOAC. Prepare vessel for spraying operations and enter the slick at recommended speed and commence spraying at a consistent rate. **Observe hydrocarbon/dispersant interaction** – During spraying operations look for evidence of dispersion, if dispersion is achieved it will produce a grey or coffee-coloured plume in the water. There may also be noticeable movement of oil from the surface into the water column. If a white plume is visible in the water this indicates that overdosing has occurred. To prevent this reduce the dispersant pump rate or increase the vessel speed during application. If there is no change to the slick's appearance but the shaky bottle test was successful, this may indicate that not enough dispersant has been applied. To remediate this, decrease the vessel speed during application or increase the dispersant pump rate.
4	**Further observation** – Once the test spray run is complete, shut off the dispersant application system and manoeuvre the vessel to return back along the test spray path to further evaluate effectiveness.
5	**Report findings** – Document findings and report to the Onshore Dyce IMT for discussion with Regulatory Authorities. Only commence spraying once further approval has been sanctioned through Dyce IMT.

Step	Action
Dispersant Application Photographs	
Example of where dispersion has been achieved (grey or coffee-coloured)	
 	
Example of where dispersant application has been overdosed (milky white-coloured)	
 	
In the event where there is no visual change after dispersant application then this indicates that the dispersant application has been ineffective.	

ROff 1.16.2.2 Record of Dispersant Use

If instructed by the IMT complete the **F.2 Table: Information to be Recorded when Using Dispersant** and the **Spray Operator's Log**, whilst spraying dispersant. This log must be completed in full for any dispersant operations.

All information should be retained for 5 years and submitted to OPRED accordingly if requested.

F.2 Table: Information to be Recorded when Using Dispersant	
Installation Information	
Name of Operator	
Name/identifier of field(s)/installation(s)	
Location(s) – quadrant(s)/block(s)	
Dispersant Use Information	
Date	
Dispersant proprietary name(s)	
Quantity/quantities used	
Method(s) of application	
Location(s) of application – quadrant(s)/block(s)	
Prevailing weather conditions at time of use: Wind speed Wind direction Wave height	
Reason for Use	
Was approval or advice obtained prior to use?	
Estimate quantity of oil treated	
Comments on effectiveness of treatment	
Other relevant observation/comment on use	
Name and contact details for person reporting use	
Date and time report was completed	

Spray Operator's Log							
Run number							
Start time							
Finish time							
Start position (Latitude/Longitude)							
Finish position (Latitude/Longitude)							
Course bearing							
Volume of dispersant used (m^3)							
Dispersant to oil ratio							
Observed effects of dispersant							

ROff 1.17 Example PON1 Email Form

If it is not possible to submit the PON1 electronically via the UK Energy Portal, use the email version of the PON1 form (please click here).

Section
2

Non-operational Section

1 Introduction

1.1 TOOPEP Design

This Temporary Operations Oil Pollution Emergency Plan (TOOPEP) has been prepared to provide offshore response personnel with the information and processes necessary to implement an effective and proportionate response in the event of hydrocarbon release (and appropriate notification of a chemical release) originating from operations at the Northern Endurance Partnership (NEP) Bunter outcrop borehole location being undertaken from the Valaris Norway operated by Valaris.

In accordance with UK regulatory requirements and relevant guidance[7], this OPEP details a three-tiered response capability based on the following key factors:

- Hydrocarbon types
- Hydrocarbon properties
- Potential quantities
- Metocean data (meteorological and oceanographic)
- Environmental and economic sensitivities
- The combined response capabilities of both bp and OSRL

1.2 TOOPEP Structure and Use

1. **Offshore Asset-specific TOOPEP**

   Designed specifically for use by the offshore response personnel for a response to a Tier II/III incident, this TOOPEP has been sub-divided into three sections to fulfil its operational requirements:

   - Section 1 Operational Section

     This section details all the necessary operational information and guidance that may be required by responding personnel offshore to determine and enact an appropriate response. The information is presented in a sequence expected to be followed in the event of a release and is concise in content to facilitate clear focus on the required actions to be undertaken offshore.

7 SI 2015/No 386 The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) (Amendment) Regulations 2015 and Guidance Notes for Preparing Oil Pollution Emergency Plans for Offshore Oil and Gas Installations and Relevant Oil Handling Facilities, Revision 6, September 2021.

- Section 2 Non-operational Section

  This section details the supporting NEP Bunter outcrop borehole information necessary to align this TOOPEP with the regulatory planning requirements[8]. To streamline this TOOPEP, operational sections are supported by information detailed within the non-operational section and will require an element of cross-referencing by the reader.

- Section 3 Response Justification

  This section provides supporting information to justify the levels of response preparedness specified in the TOOPEP for the drilling and subsequent abandonment of the NEP Bunter outcrop borehole, situated in the UKCS and operated by bp on behalf of itself and its partners as licensees of block 43/28.

2. **Onshore Oil Pollution Emergency Plan (UK-PLN-4.6-1002)**

   The Onshore OPEP is designed to be used by the Dyce Incident Management Team (IMT) and cross-referenced/interfaced with this offshore TOOPEPs, where necessary.

To assist in referencing between the two documents, the following navigation key has been developed.

Onshore OPEP	**ROn 1 Refers to Operational Response section detailed within the Onshore OPEP.** **1 # Numbering refers to the Non-Operational section of the Onshore OPEP.**
Offshore TOOPEP	**ROff 1 Refers to Operational Response section detailed within this Offshore TOOPEP.** **1 # Numbering refers to the Non-Operational section of the TOOPEP.**

As the Valaris Norway is a Non-Production Installation (NPI), the following additional documentation will be required:

- Valaris Norway Non-Production Installation OPEP

The NPI OPEP (PR-292-OPEP-5.1) shall apply to the Valaris Norway whilst it operates as a separate entity and is independent in function from bp-affiliated wells. When the NPI is on station at bp-operated interest/field, the NPI OPEP is superseded by this TOOPEP.

All personnel expected to access and use this TOOPEP will have received TOOPEP familiarisation training covering its use and application, in addition to attending the mandatory Oil Spill Response courses stipulated by OPRED.

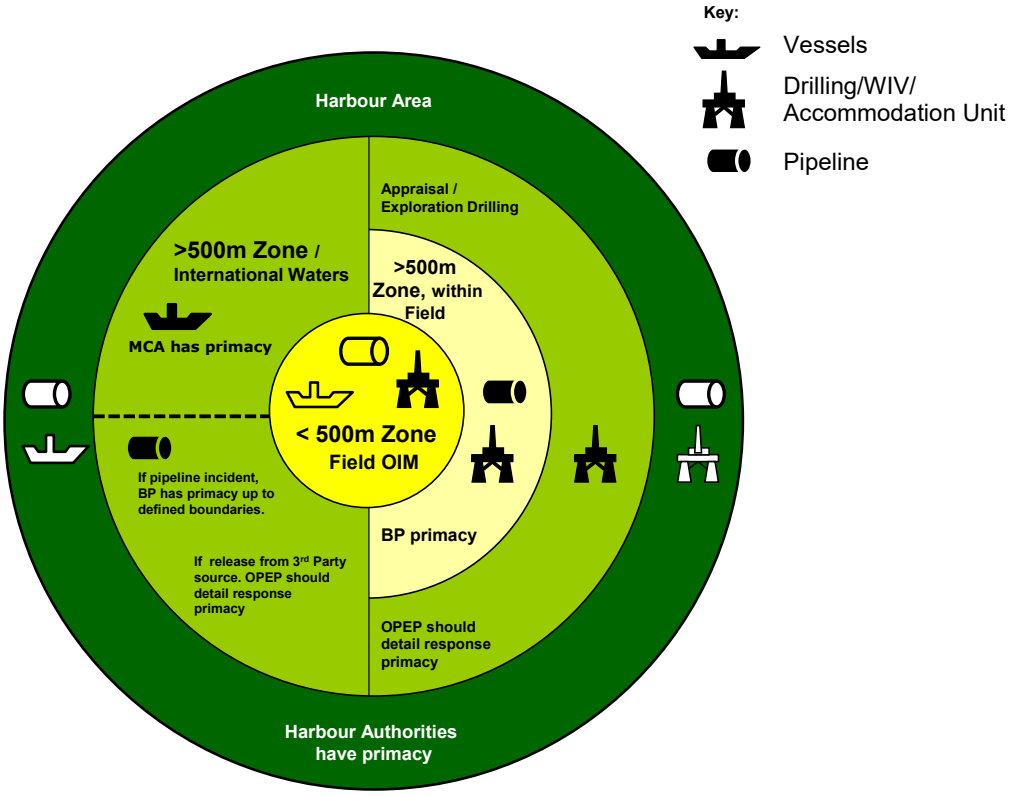
8 SI 2015/No 386 The Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) (Amendment) Regulations 2015 and Guidance Notes for Preparing Oil Pollution Emergency Plans For Offshore Oil & Gas Installations and Relevant Oil Handling Facilities, Revision 6, September 2021.

1.3 Scope of TOOPEP

This Offshore TOOPEP has been prepared to cover the offshore response to a hydrocarbon release from:

- The Valaris Norway drilling rig
- Supply and survey traffic when working in the 500m zone of the NEP Bunter outcrop borehole

2 Roles and Responsibilities



2.1 Hydrocarbon Release within 500m Safety Zone of NEP Bunter Outcrop Borehole

In the event of a release of hydrocarbons operations within the 500m zone of the NEP Bunter outcrop borehole, the OIM of the Valaris Norway will initially assume the role of OSC. The OSC is responsible for undertaking all possible measures to control the release, notifying all relevant statutory and corporate entities and mobilising Tier 1 response assets as deemed necessary. Further assistance will be provided through the bp Dyce IMT.

When Valaris are operating at the Bunter outcrop borehole location on behalf of bp, they will follow this TOOPEP.

For all Tier 1 spills while the Valaris Norway is on location, Valaris will have primacy, supported by bp. For all Tier 2/3 spills while the Valaris Norway is on location, bp will have primacy, supported by Valaris.

2.2 Hydrocarbon Release outwith 500m Safety Zone of the NEP Bunter Outcrop Borehole

Where a release originates outside the Bunter outcrop borehole operations (500m zone of the Valaris Norway), bp will endeavour to establish the party responsible for the release and notify them of their obligation to respond as required.

If a release occurs from a vessel with a bp interest (eg seismic vessel) outwith the 500m zone, it will be for the vessel owner to lead the response using its own oil spill plan, albeit with support from bp if required.

2.3 Hydrocarbon Release from NEP Bunter Outcrop Borehole Approaching Waters Outside the UKCS

In the event of a hydrocarbon release originating from operations at the Bunter outcrop borehole crossing the median line into another country's jurisdiction (other than the Faroe Islands), the Bonn Agreement may be activated.

The Bonn Agreement is a mechanism by which the North Sea States, namely Belgium, France (Manche Plan), Norway (NORBRIT Agreement), Denmark, Germany, Ireland, the United Kingdom, the Netherlands and Sweden co-operate to combat pollution in the North Sea Area. The Agreement recommends the command structure and operational co-ordination maintained between the parties.

Co-ordination of the response strategy with the relevant authorities will be facilitated through the MCA.

2.4 Hydrocarbon Release from the NEP Bunter Outcrop Borehole with Potential or Actual Shoreline Impact

In the event of a hydrocarbon release associated with NEP Bunter outcrop borehole operations resulting in hydrocarbons beaching or having the potential to beach on the UK shoreline, the responsibility for dealing/responding to any pollution of the shoreline rests principally with the local authorities. In the event of a release approaching the UK shoreline, bp will alert the authorities of the coastal administrations who are responsible for the areas that are likely to be affected. The contact details of the relevant authorities can be found in **ROn 1.11 Emergency Contacts Directory**.

2.5 Hydrocarbon Release from Vessels and Rigs in Transit

The vessel or rig owners or operators are responsible for reporting and dealing with any hydrocarbon release or pollution from any vessel or rig when travelling to the location, or prior to establishing the 500m safety zone around the chartered destination.

In the event of a hydrocarbon release during transit, reporting to government agencies and to bp rests with the vessel or rig owner who will implement the appropriate International Convention for the Prevention of Pollution from Ships (MARPOL) approved Shipboard Oil Pollution Emergency Plan (SOPEP). bp will support the response as appropriate.

3 Response Interfaces

3.1 bp/Valaris Hydrocarbon Release Response Primacy

NEP Bunter Outcrop – Primacy Information	
Licensee/Operator	bp
Tier 1 Response Primacy	Valaris Norway OIM/Valaris
Tier 2/3 Response Primacy	bp Exploration Operating Company Limited
Interface Reference Document	Wells HSSE Bridging Document Valaris – Valaris Norway (UKFC0-WE-RSK-600-00018)

Tier 1 – In the event of a Tier 1 hydrocarbon release to sea from the Valaris Norway during combined operations, the Valaris Norway OIM will be the On-scene Commander and the Valaris onshore Incident Management Team will take primacy for coordinating the response, with additional support from the bp onshore Incident Management Team (if required).

Tier 2/3 – In the event of a Tier 2/3 hydrocarbon release to sea from the Valaris Norway during combined operations, the Valaris Norway OIM will continue to be the On-Scene Commander; however, the bp onshore Incident Management Team will take primacy for coordinating the response, with additional support from the bp Business Support Team and Valaris Incident Management Team.

Details of the interface arrangements between bp and Valaris are set out in **Wells HSSE Bridging Document Valaris – Valaris Norway (UKFC0-WE-RSK-600-00018)**.

3.2 Communications Offshore

In the event of a hydrocarbon release to sea when the Valaris Norway is on location at the Bunter outcrop borehole, the Valaris Norway OIM (or their delegate) will notify the bp Wellsite Leader who will contact the bp Notification Centre (bpNC; was previously Dyce Control Room). The Valaris Norway OIM (or their delegate) will also contact the Valaris onshore Incident Management Team and provide all necessary co-operation to bp through the Wellsite Leader.

The Valaris Norway OIM or their delegate will complete the initial notifications to the relevant regulatory authorities and statutory bodies and confirm to the onshore Incident Management Team(s) when initial notifications are complete. Initial Petroleum Operations Notice No. 1 (PON1) notifications will take place immediately after the first sighting of the release.
The Electronic PON1 (ePON1) will be completed offshore within 6 hours by the Valaris Norway OIM (or their delegate) and in accordance with **ROff 1.2 Notifications** herein.

3.2.1 Offshore Response Action Plan

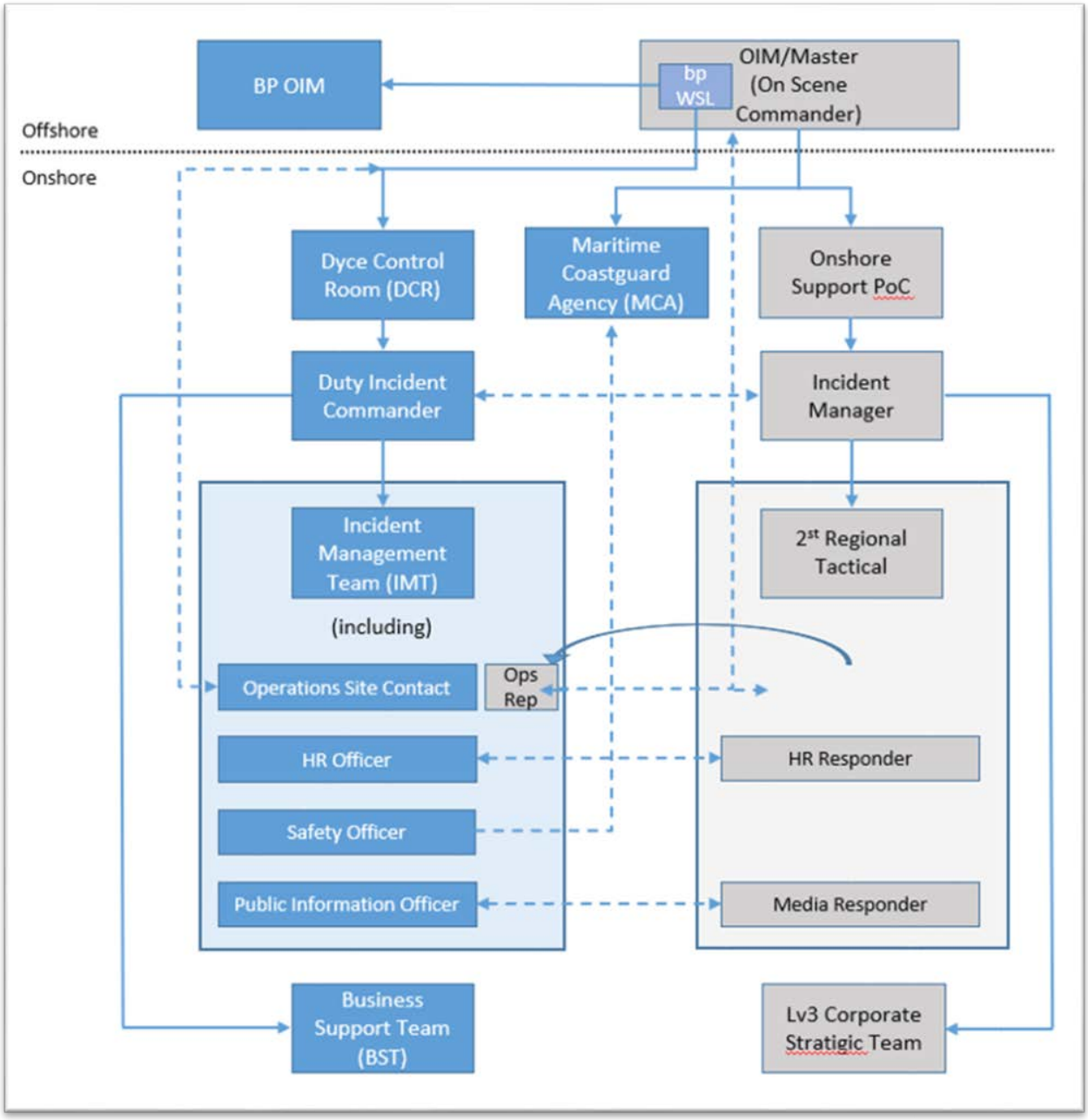
In the event of a hydrocarbon release to sea from the Valaris Norway, the primacy holder as defined in **Paragraph 3.1 bp/Valaris Hydrocarbon Release Response Primacy** shall refer to **ROff 1 Offshore Response Action Plan**, which details the appropriate steps to be taken.

3.3 Communications Onshore

In the event of any hydrocarbon release to sea when the Valaris Norway is on location at the Bunter outcrop, the Valaris Norway OIM will notify the bp Wellsite Leader who will contact the bp Notification Centre (bpNC), a 24-hour manned facility.

The bpNC will then notify the bp Duty Incident Commander. Once the extent of the incident is known, the bp Duty Incident Commander will mobilise the Incident Management Team. Once assembled, the bp Incident Commander and Incident Management Team will assume overall command for the incident response (in the event of a Tier 2/3 incident). The bp Incident Management Team will either be located at bp NSHQ or mobilised virtually via Microsoft Teams (see **Paragraph 3.5.1 Contact Details**). The bp Incident Management Team (in the event of a Tier 2/3 incident) will receive support from the Valaris Incident Management Team and a representative from Valaris will mobilise to bp as required. The bp and Valaris Incident Management Teams will manage all communications to and from regulatory bodies, neighbouring installations and response contractors (such as Oil Spill Response Limited (OSRL)), depending on the extent of the incident and primacy arrangements at the time.

The diagram below illustrates the initial response notification chain that mobilises the onshore response organisation.



3.4 Nearby Installations

In the event of a hydrocarbon release to sea from the Valaris Norway when on location with the potential to impact nearby Installations as detailed in **Section 1 ROff 1.2.3 Additional Notifications**, the Valaris Norway OIM (or their delegate) shall ensure they are informed.

3.5 Valaris Personnel

Upon mobilisation, the Valaris Duty Manager and Incident Management Team will mobilise the Restrata Emergency Response office in Aberdeen. Should a representative from Valaris be required to mobilise to the bp Incident Management Team, the Valaris Duty Manager (or an appropriate delegate) will attend the bp office and engage directly with the bp Incident Management Team (or attend virtually, if appropriate).

Valaris will also provide the relevant personnel to engage with a Secretary of State's Representative (SOSREP) Operations Control Unit (OCU) at bp, where required.

3.5.1 Contact Details

- Telephone: + 44 (0) 1224 4366180; + 44 (0) 1224 4466182
- Fax: +44 (0) 1224 216 561
- Email: R292radio@valaris.com

Valaris (North Sea and Mediterranean)
Gateway Crescent
Gateway Business Park
Aberdeen
AB12 3GA
United Kingdom
Office Telephone: + 44 (0) 1224 780 400

Restrata (Valaris emergency response facility)
Provender House
First Floor – Courtyard
37 Waterloo Quay
Aberdeen
AB11 5BS
Phone: +44 0 1224 937 000
Emergency Telephone (Restrata): +44 (0) 1224 646 258

4 Field Information

4.1 Field Information and Diagram

Refer to **ROff 1.5 Field Information** and **ROff 1.6 Field Diagram**.

4.1.1 Subsea Wells and Pipelines

Refer to **ROff 1.7 Hydrocarbon Inventories and Borehole Data** for further information.

4.2 Hydrocarbon Inventories

To assist in assessing the potential/actual release volumes associated with the NEP Bunter outcrop operations, the topside hydrocarbon inventories have been identified and documented. These are detailed in **ROff 1.7 Hydrocarbon Inventories and Borehole Data.**

4.2.1 Initiating Events

Initiating events can have a major influence on the volume of hydrocarbon that may be released to sea. Being able to identify these events and the potential containing systems that are at risk provides an indication as to potential worst-case scenarios.

The table below identifies such initiating events and the respective containing systems at risk from the Valaris Norway when operating at the NEP Bunter outcrop borehole location.

Initiating Events	Containing Systems at Risk
Internal corrosion	Topside pipework and vessels
Erosion	Pipework
Over pressurisation	Topside vessels
Fire and explosion	Topside vessels and pipework
Vibration	Topside vessels and pipework
Structural failure	Topside containing systems
Hose rupture/failure	Bunker system
Material defects/maintenance	Topside containing systems
Extreme weather	Topsides

4.3 Hydrocarbon Characteristics and Fate of Hydrocarbon

A key contributing factor influencing the ultimate fate of released hydrocarbon is the various weathering processes that may be experienced. Hydrocarbons weather differently depending on their type, so an understanding of this relationship and the impact weathering may have on the hydrocarbon's properties is important when determining an appropriate response strategy. The various hydrocarbon types stored at the NEP Bunter outcrop borehole location have been analysed and a description of their anticipated behaviour is detailed in the following table. Refer to **ROff 1.5.1 Hydrocarbon Properties** for a breakdown of the associated field hydrocarbon properties.

4.3.1 Fate of NEP Bunter Outcrop Hydrocarbons

Fate of Hydrocarbon	
4.3.1.1 Reservoir hydrocarbons	N/A
4.3.1.4 Diesel oil	Diesel has very high levels of light ends, evaporating quickly on release. The low asphaltene content prevents emulsification reducing its persistence in the marine environment.

5 Receiving Environment

5.1 Environmental and Commercial Sensitivities

This paragraph contains a summary of the environmental and commercial sensitivities, on a seasonal basis, in the immediate vicinity of the NEP Bunter outcrop well site. This information will be supported by actual observations from the site and used by the Dyce IMT when determining response strategies with the relevant external agencies[9]. It may be useful to contact the Joint Nature Conservation Committee (JNCC) (pollutionadvice@jncc.gov.uk) for advice during an incident.

The Seabird Sensitivities have been updated with the JNCC Seabird Oil Sensitivity Index (SOSI). Blocks with no available data have been extrapolated from the surrounding blocks as per the JNCC guidance. Following this approach, the blocks in November and December still have no data available.

The table below details the sensitivity of seabirds in the blocks surrounding the Bunter outcrop borehole.

Seabird Sensitivities[10]												
Block	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
43/22	1*	5*	5	5*	2*	2	2	4	2	2*	1*	1
43/23	1*	5*	5	5*	2*	2	2	3	2	2*	1*	1
43/24	2*	5*	5	5*	3*	3	1	2	2	2*	2*	2
43/27	1*	3	5	1*	1	2	1	3	1	1*	1*	1
43/28	1*	5*	5	5*	3*	3	1	4	1	1*	1*	1
43/29	2*	5*	5	5*	3*	3	1	4	2	2*	2*	2
48/2	1*	2	1	1*	2	2	2	3	1	1*	1*	1
48/3	1*	5*	5	5*	3*	3	1	4	1	1*	1*	1
48/4	1*	5*	5	5*	4*	4	1	4	1	1*	1*	1
Key	1 – Extremely High		2 – Very High		3 – High		4 – Moderate		5 – Low		N – No data	

**indicates an indirect assessment of SOSI scores in light of coverage gaps (data gap filled from the same block in adjacent months).*

9 In the event of a hydrocarbon release, the most up-to-date information on environmental sensitivities will be advised on the day via the relevant authorities.

10 Coastal and Marine Resource Atlas.

The NEP Bunter outcrop borehole sits in ICES rectangle 37/F1. Below are details of the fish spawning and nursery species in this rectangle.

Fish Sensitivities												
Fisheries[11]	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Blue Whiting	N	N	N	N	N	N	N	N	N	N	N	N
Cod	SNJ	S*NJ	S*NJ	SNJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Mackerel	NJ	NJ	NJ	NJ	S*NJ	S*NJ	S*NJ	SNJ	NJ	NJ	NJ	NJ
Lemon Sole	N	N	N	SN	SN	SN	SN	SN	SN	N	N	N
Anglerfish	N	N	N	N	N	N	N	N	N	N	N	N
Plaice	S*J	S*J	SJ	J	J	J	J	J	J	J	J	SJ
Herring	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ	NJ
Whiting	NJ	SNJ	SNJ	SNJ	SNJ	SNJ	NJ	NJ	NJ	NJ	NJ	NJ
Sandeel	SN	SN	N	N	N	N	N	N	N	N	SN	SN
Sprat	NJ	NJ	NJ	NJ	S*NJ	S*NJ	SNJ	SNJ	NJ	NJ	NJ	NJ
Nephrops	SN	SN	SN	S*N	S*N	S*N	SN	SN	SN	SN	SN	SN
Hake	N	N	N	N	N	N	N	N	N	N	N	N
Ling	N	N	N	N	N	N	N	N	N	N	N	N
Spurdog	N	N	N	N	N	N	N	N	N	N	N	N
Haddock	J	J	J	J	J	J	J	J	J	J	J	J
Horse Mackerel	J	J	J	J	J	J	J	J	J	J	J	J
Norway pout	J	J	J	J	J	J	J	J	J	J	J	J
Key	SN – Spawning/Nursery			S – Spawning		N – Nursery		J – Juveniles (ie, <1 year old)				

* Peak spawning

Commercial Fishing Effort: the area surrounding the Bunter outcrop borehole has a moderate commercial fishing value compared with the rest of the UKCS.

Nursery: The area is a nursery area for blue whiting, cod, mackerel, lemon sole, anglerfish, herring, whiting, sandeel, sprat, European hake and ling.

11 Fisheries data taken from KA Coull, R Johnstone, and SI Rogers (1998) Fisheries Sensitivity Maps in British Waters.

5.1.1 Marine Mammal Sensitivities[12]

The NEP Bunter outcrop borehole lies within Quadrant 43/28 where several cetacean species have been sighted. These include Annex IV species[13] such as the harbour porpoise and minke whale. The majority of these sightings have been recorded through the summer months but are sporadic and infrequent.

Cetaceans												
The following species have been sighted in the area throughout the year as either an occasional or regular occurrence. The spatial and seasonal variation in these sightings is summarised below.												
Receptors	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Quadrant 43/28												
Minke Whale					2	2	1	3	2			
White-beaked Dolphin					3	1	2	2	2	2	3	3
Atlantic White-sided Dolphin						3	3	3	3			
Harbour Porpoise	3	3	2	3	3	2	1	2	1	3	3	3
Key	1 – High density		2 – Medium density			3 – Low density			Blank – No data			

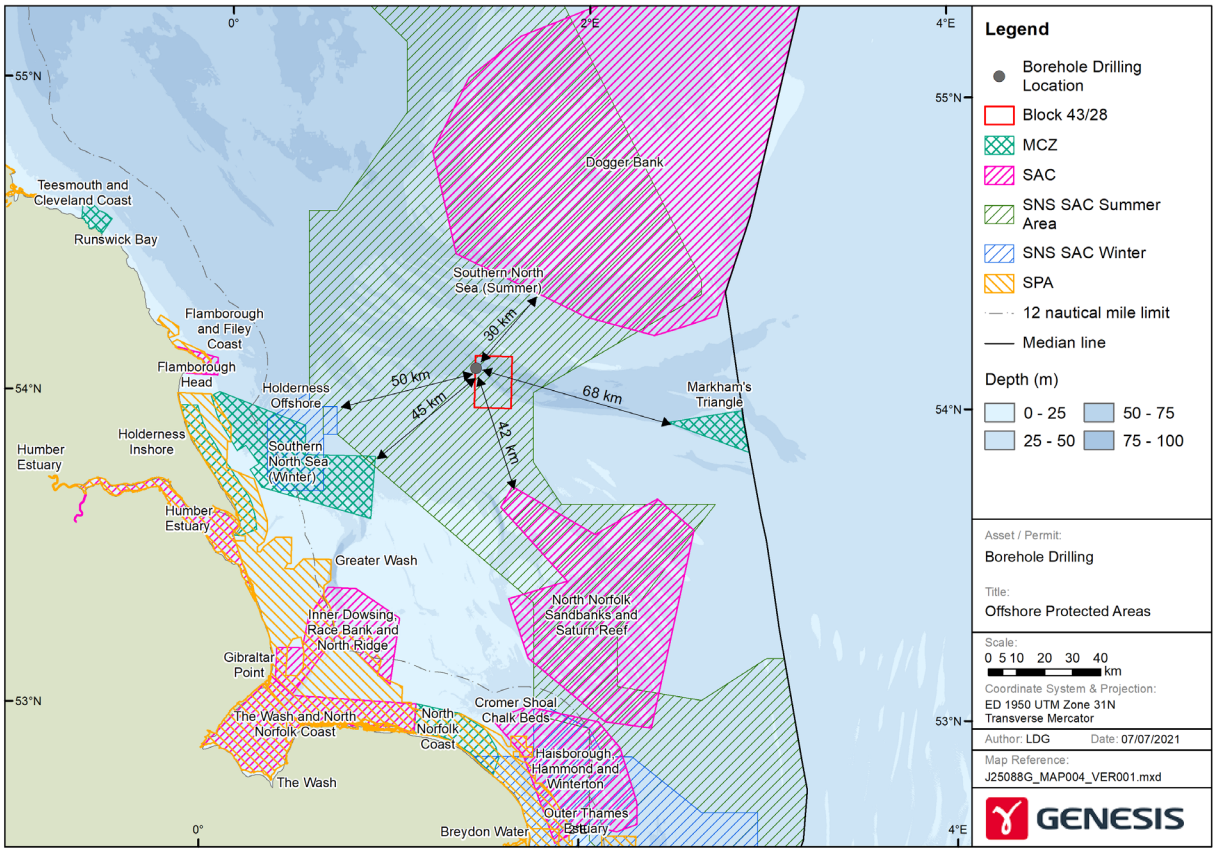
5.1.2 Shipping Activities

Shipping activity in the area comprises oil and gas support vessels, merchant shipping vessels and fishing vessels from the UK and Norway.

12 Cetacean data taken from JNCC Atlas of Cetacean distribution in north-west European waters.
13 JNCC – Annex IV: Animal and plant species of Community interest in need of strict protection.

5.2 Marine Protected Areas

A number of marine protected areas have been identified that may have the potential to be impacted as a result of a hydrocarbon release from the NEP Bunter outcrop borehole (refer to figure below).



These include:

- **Special Protection Area (SPA) with Marine Components:** SPAs with Marine Components are defined as those sites with qualifying Birds Directive Annex I species or regularly occurring migratory species that are dependent on the marine environment for all or part of their lifecycle.
- **Nature Conservation Marine Protected Area (NCMPA):** NCMPAs are a statutory Marine Protected Area designated under the Marine and Coastal Access Act (2009) and the Marine Scotland Act (2010).
- **Special Area of Conservation (SAC) with Marine Components:** SACs are sites that are identified for habitats and species listed on the EC Habitats Directive.
- **Marine Conservation Zone (MCZ):** MCZs are a type of protected area at sea where human activity is restricted to protect wildlife and habitats, designated under the Marine and Coastal Access Act (2009).

The borehole is within the Southern North Sea SAC (summer area), designated for the protection of harbour porpoise. It lies 30km southwest of Dogger Bank SAC, designated for the protection of Sandbanks. It lies 42km north of North Norfolk Sandbanks and Saturn Reef SAC, designated for the protection of a series of ten main sandbanks and associated fragmented smaller banks, as well as areas of *Sabellaria spinulosa* biogenic reef. It lies 45km northeast of Holderness Offshore MCZ designated for the protection of North Sea glacial tunnel valleys, ocean quahog (*Arctica islandica*), subtidal coarse sediment, subtidal mixed sediments and subtidal sand. It is also 50km east of the Southern North Sea SAC (winter area), designated for the protection of harbour porpoise.

6 Hydrocarbon Pollution Modelling

This section identifies the potential worst-case hydrocarbon release scenarios in order to establish the potential impact to the marine environment. The scenarios represent the largest volume as well as the most persistent hydrocarbons that could potentially be released as a result of the NEP Bunter outcrop borehole operations.

6.1 Stochastic Modelling

Stochastic modelling was carried out using SINTEF's Oil Spill Contingency and Response (OSCAR) model, version 13.1.0. A hundred trajectories were run for each of the two seasons (Spring and Summer) to create the stochastic results for Scenario 1.

Scenario 1: Release of 924.5m^3 marine diesel from the Valaris Norway at the Bunter outcrop borehole location.

Paragraph 6.2 Stochastic Modelling Outputs provides a detailed breakdown of the likely fate of the hydrocarbon for the selected scenarios. The results have been used to ensure that bp's response capability aligns with the response requirements as stipulated by OPRED guidance.[14]

A justification for the quantities and rates used in the scenarios is detailed within **Section 3 Paragraph 2 Field Response Justification**.

14 Guidance Notes for Preparing Oil Pollution Emergency Plans for Offshore Oil and Gas Installations and Relevant Oil Handling Facilities, Revision 6, September 2021.

6.1.1 Stochastic Modelling Input Data

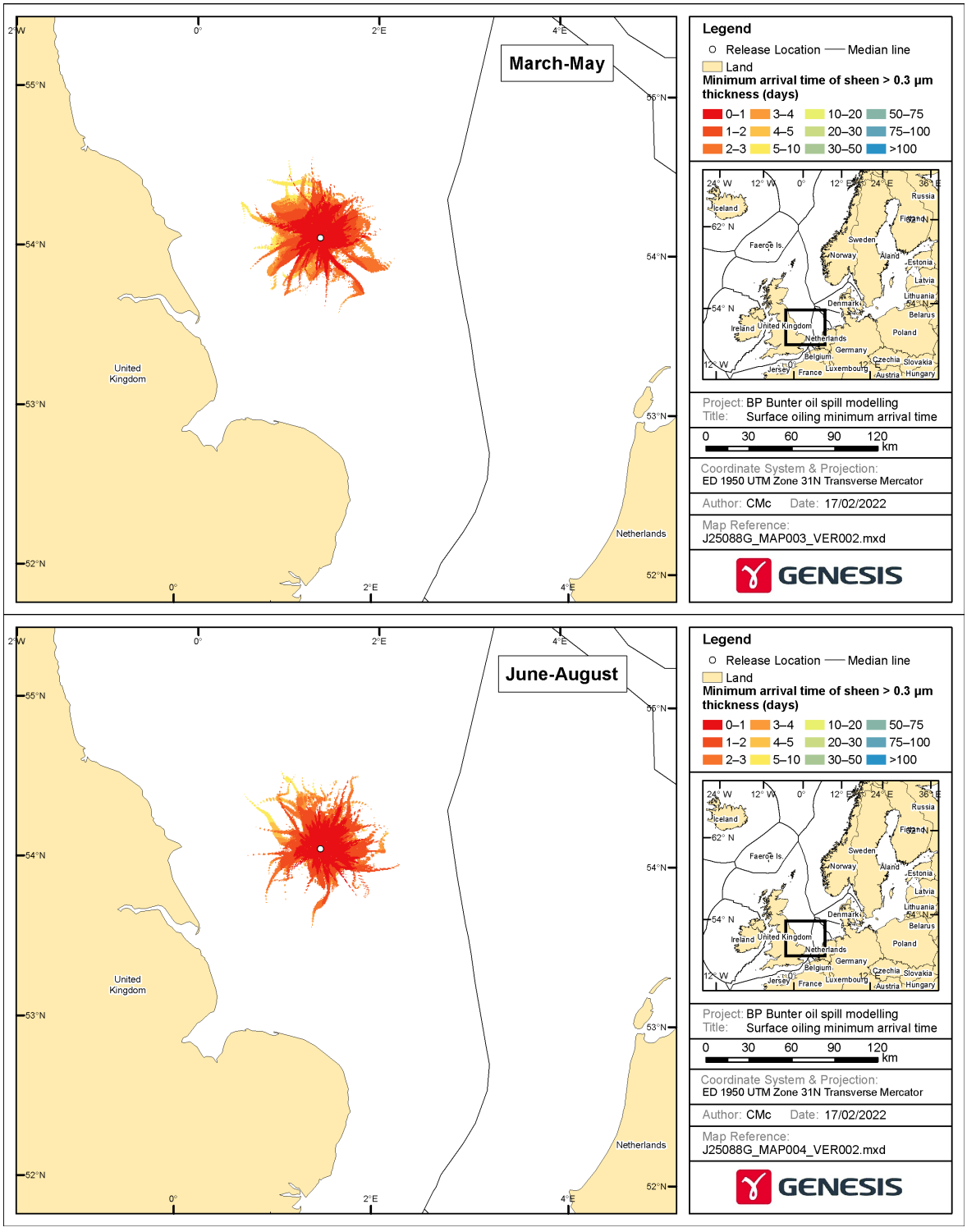
The input data used for the models are detailed below.

Scenario 1: Oil Spill Modelling Parameters							
Inventory Loss Parameters							
Loss from well/ FPSO/rig/other	Rig			Instantaneous loss?	Yes		
Worst-case volume	924.5m^3			Will the well self-kill? If yes, then when?	N/A		
Flow rate	924.5m^3/hr						
Justification for predicted worst-case volume	Full inventory of diesel held on the Valaris Norway.						
Location							
Spill source point (ED50 UTM Zone 31N)	Latitude	54° 07' 34.3277" N		Longitude	1° 24' 19.6473" E		
Installation/facility name	NEP Bunter Outcrop			Quad/Block	43/28		
Hydrocarbon Properties							
Hydrocarbon name	Marine Diesel (generic)						
Assay available	No	Was an analogue used for spill modelling?			Yes		
Name	ITOPF category	Specific gravity	API	Viscosity (temp °C)	Asphaltene content (%)	Wax content (%)	Pour point (°C)
Marine Diesel (generic)	2	N/A	N/A	N/A	N/A	N/A	N/A
Marine diesel (IKU)	2	0.843	N/A	3.9	0.05	0.05	-36
Metocean Parameters							
Air temperature	N/A		Sea temperature	7.07 to 13.80 (°C)			
Wind data	Data period:	2009 to 2013					
Wind data reference	Oil and Gas UK winds dataset						
Current data	Data period:	2009 to 2013					
Current data reference	Oil and Gas UK currents dataset						
Modelled Release Parameters							
Surface or subsurface	Surface		Depth	0.5m			
Release duration	1 hour		Instantaneous?	Yes			
Persistence duration	50 days		Release rate	924.5m^3/hr			
Total simulation time	50 days		Total release	924.5m^3			
Oil Spill Modelling Software							
Name of software	OSCAR		Version	13.1.0			

6.2 Stochastic Modelling Outputs

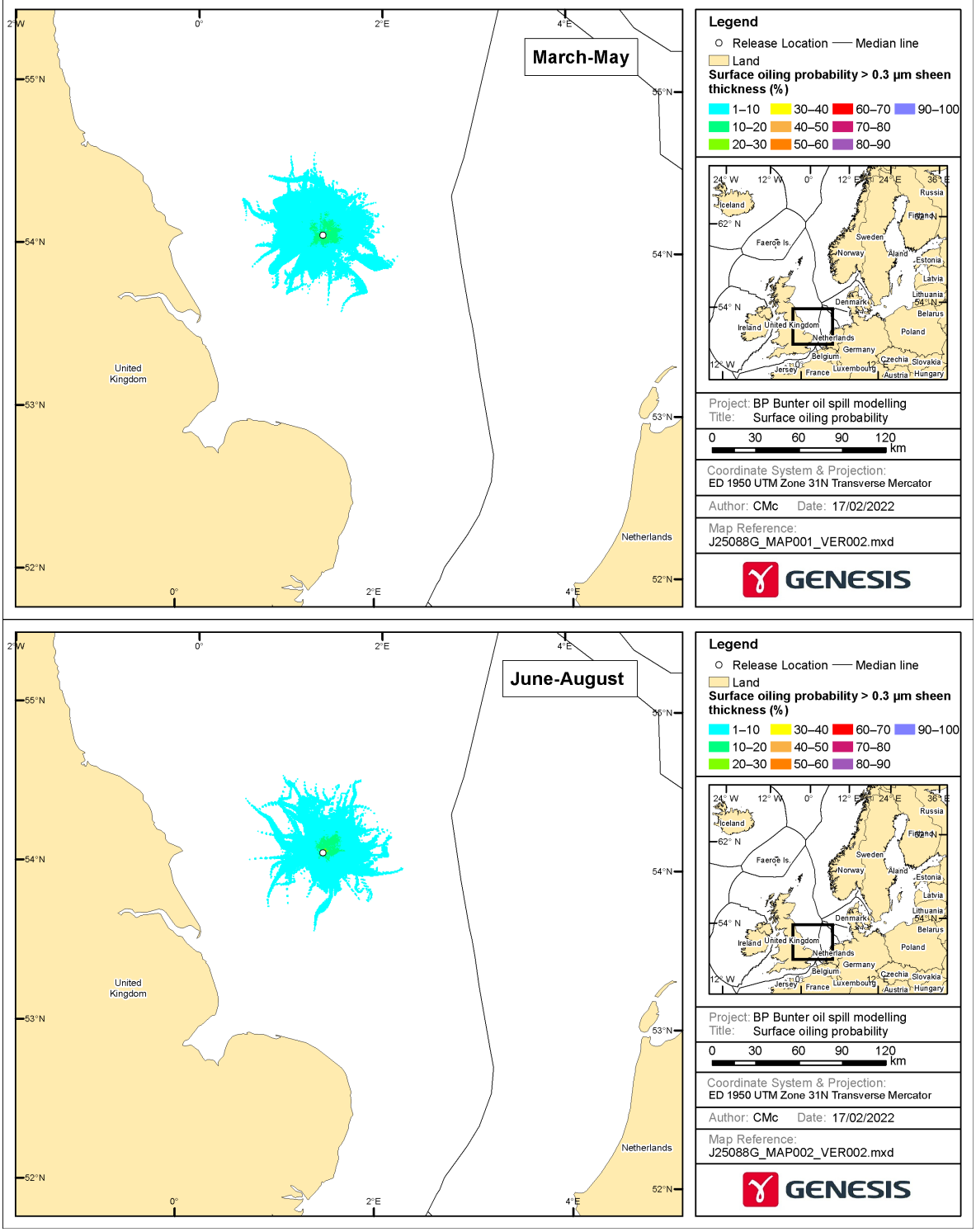
6.2.1 Stochastic Scenario 1: Diesel Release

Scenario 1: NEP Bunter outcrop release of 924.5m^3 on the sea surface			
Hydrocarbon Type	Diesel	Model output	Surface Oiling Arrival Time



Scenario 1: NEP Bunter outcrop release of 924.5m^3 on the sea surface

Hydrocarbon Type	Diesel	Model output	Probability of Surface Oiling



Oil Spill Modelling Summary								
Spill scenario/descriptor	Scenario 1 – Diesel Release – 924.5m^3							
Median Crossing								
Identified median line	Probability (>5%) of crossing and minimum time to reach (days)							
			Mar to May		Jun to Aug			
			Prob	Days	Prob	Days		
UK			100	0	100	0		
Norway			N/A	N/A	N/A	N/A		
Landfall								
	Probability of beaching and minimum time to beach (days)							
Predicted locations	Dec to Feb		Mar to May		Jun to Aug		Sep to Nov	
	Prob	Days	Prob	Days	Prob	Days	Prob	Days
Northumberland and Tyne and Wear			3	36.0	N/A	N/A		
Tees Valley and Durham			3	33.3	N/A	N/A		
North Yorkshire			15	3.9	3	7.1		
East Yorkshire and Northern Lincolnshire			27	4.7	3	6.3		
Lincolnshire			19	5.1	N/A	N/A		
East Anglia			5	10.7	1	14.7		
Netherlands			1	23.4	N/A	N/A		
Volume beached (worst-case)	0.0073m^3 (Spring)							
Key Sensitivities at Risk – >5% Probability and Minimum Arrival Times								
	Probability of beaching and minimum time to beach (days)							
Predicted locations	Dec to Feb		Mar to May		Jun to Aug		Sep to Nov	
	Prob	Days	Prob	Days	Prob	Days	Prob	Days
Greater Wash SPA			27	4.7	N/A	N/A		
Holderness Inshore MCZ			27	4.7	N/A	N/A		
Flamborough and Filey Coast SPA			20	3.9	N/A	N/A		
Runswick Bay MCZ			6	26.4	N/A	N/A		

7 Response Procedures and Guidance

7.1 Initial Offshore Notification Requirements

It is the responsibility of the Valaris Norway OIM to initially report a hydrocarbon release to the Regulatory Authorities, Valaris IMT and Dyce IMT (PON1s will be submitted from offshore although the IMT may be tasked by the OIM to respond accordingly). The offshore notification matrix and PON1 reporting requirements specific to the OIM are detailed in **ROff 1.2 Notifications**. The relevant onshore initial notification requirements are contained in **ROn 1.4 Notifications** and **ROn 1.11 Emergency Contacts Directory**.

7.2 Tier Response Classification

To enable the Valaris Norway OIM to identify the correct level of response, a Tier Selection Guide has been developed to assist the OIM/offshore personnel and Dyce IMT in the decision-making process. Refer to **ROff 1.4 Tier Selection Guide**.

7.3 Estimating Release Size

To ensure that the operational response plan being formulated is commensurate to the size of the release, it is imperative to determine as accurately as possible the quantity of hydrocarbon released to sea. In the event that offshore estimation measures are unsuccessful, the Dyce IMT has the capability to mobilise a dedicated aerial surveillance aircraft through the response contractor OSRL to assist with this exercise.

Two effective techniques have been identified to estimate the volume of a hydrocarbon release.

1. Report the known quantity from the correctly identified containing system.
2. Visual estimation of the hydrocarbon on the sea surface using the Bonn Agreement table (refer to **ROff 1.10 Bonn Agreement Oil Appearance Code**). This details the relationship between hydrocarbon colour, thickness and area covered. This method can be achieved from the drilling rig, Platform Supply Vessel (PSV), Emergency Response and Rescue Vessel (ERRV), infield crew change helicopter, or a dedicated aerial surveillance aircraft as appropriate, dependent on the release. A full description of the process to be followed is detailed in **ROff 1.8 Release Size Estimation Guide**.

7.4 Estimating Release Movement

It is important to determine the direction in which the release will move, in order to assess the potential impact on any other installations and any potential environmental sensitivities. Offshore, efforts will focus on the short-term migration of the hydrocarbon, requiring a longer term prediction to be undertaken by the onshore team to establish its ultimate fate. This can be achieved by manual tracking, as detailed in **ROff 1.11 Manual Release Tracking**.

7.5 Computer Prediction of Release Movement

Computer-based predictions of the movement of the release will be undertaken by the onshore team, either by the EUL or through OSRL. Hydrocarbon type, weather forecast, water depth, estimated quantity of release and initial position will be the minimum information required to conduct a trajectory model. Analysis of the results will be undertaken by bp and OSRL before being shared with the relevant agencies as part of the response planning process.

7.6 Response Strategy Operational Guidelines

7.6.1 Selecting an Initial Offshore Response Strategy

The fate of hydrocarbons within the environment can be affected by a number of factors, including the actual weather conditions at the time. Consequently, a number of response strategies may be required to manage operations. To assist the OIM and onshore team in identifying the most effective and environmentally beneficial response, bp has devised a field-specific response strategy flowchart. The offshore response strategy flowchart is located in **ROff 1.13 Response Strategy Options**.

7.7 Available Response Strategy Options

The response flowchart in **ROff 1.13 Response Strategy Options** identifies both counter-pollution and source control response strategy options.

7.7.1 Counter Pollution Response Strategy Options

There are three potential counter-pollution response options that can be implemented in the event of a hydrocarbon release to sea.

Note: Light oils such as diesel are expected to quickly evaporate and naturally disperse within the marine environment; therefore, chemical dispersion and mechanical containment and recovery is not considered a viable or suitable response option but will be retained as options if required and agreed with relevant authorities.

1. **Surveillance and monitoring:** This strategy is to be implemented for light hydrocarbon releases, such as diesel, condensate and small crude releases where the prevailing weather conditions are conducive to natural dispersion of the hydrocarbon into the environment. This strategy is also to be implemented to monitor the movement of larger or more persistent hydrocarbon releases.

2. **Chemical dispersant spraying:** This strategy is to be considered for larger, more persistent crude releases that may pose a threat to the personnel onboard the platform or have the potential to impact either environmental sensitivities or the shoreline. As the regulatory authority on the use of dispersants within the UKCS, OPRED will provide guidance to bp on the use of dispersants based on the advice from the relevant environmental adviser(s) (Marine Scotland for Scottish waters, and the Marine Management Organisation for English waters).

   Non-objection from OPRED must be obtained prior to the use of dispersant.

   In the event of a force majeure situation where there is a genuine risk to human life or to the safety of the platform from the released hydrocarbon (for example, from fire or explosion), approved dispersants may be used without prior guidance or approval from OPRED. In those circumstances, OPRED should be informed as soon as possible after use.

3. **Mechanical containment and recovery:** This strategy is considered ineffective on light hydrocarbons, condensates and diesel. The considerations given for the use of mechanical containment and recovery equipment (booms and skimmers) would depend on circumstances such as specific hydrocarbon properties and metocean conditions.

The Valaris Norway OIM has the ability to implement surveillance and monitoring, as well as initiating a limited dispersant response. The latter will be done in conjunction with the Dyce IMT unless personnel or the installation are considered at risk.

Mechanical Containment and Recovery operations will be co-ordinated by the Dyce IMT. Details can be found in the **Onshore OPEP (UK-PLN-4.6-1002)** **ROn 1.7 Tiered Response Resources**.

7.8 Tiered Response Resources

bp has in place the resources necessary to provide a commensurate level of response proportionate to the size and type of hydrocarbon release that may be encountered and are compliant with the requirements of the OPRED OPEP guidance notes[15].

The response is based upon the standard three-tiered system and is defined as follows:

Tier 1 (Local)	Resources on site that can control small releases or releases that will disperse naturally. Tier 1 releases do not require onshore support.
Tier 2 (Regional)	Larger releases that cannot be managed by the resources on-site and require support from a regional location (provided by OSRL). It should be noted that for all Tier 2 and above releases, the incident response co-ordination is conducted by the Dyce IMT with additional support from the Business Support Team (BST) where required.
Tier 3 (National)	A major or significant ongoing release requiring mobilisation of the Dyce IMT and BST; likely to require response assistance at a national/international level.

A detailed matrix containing the OPEP-specific tiered response resources can be found in **ROff 1.14 Tiered Response Resources**.

8 Training and Exercises

8.1 Resource Maintenance, Training and Testing

This section describes the training programme in place to ensure personnel with responsibilities for a hydrocarbon release event response are competent and that associated response equipment is fully operational at all times.

A record of all exercises undertaken will be maintained at the location where the exercise was conducted. Records will contain details of:

- Scenario details
- Exercise participants
- Log of actions undertaken
- Copies of any PON1 notifications
- Copies of other documents generated during exercise (calculations of oil quantities, response checklists etc)

15 Guidance Notes for Preparing Oil Pollution Emergency Plans for Offshore Oil and Gas Installations and Relevant Oil Handling Facilities, Revision 6, September 2021.

- Debrief report
- Details of any actions/improvements resulting from the exercise

Records will be retained for 5 years and available upon request by OPRED.

8.1.1 Training and Exercise Programme[16]

Personnel	Training
OIM	• Offshore OSC (OIM) OPEP Level 1 training repeated every 3 years • OPEP familiarisation training
ERRV staff	• Initial training in the use of the dispersant equipment and regular refreshers (every 3 years)
Personnel	**Exercises**
Shift OIMs	• The OPEP is to be exercised by all shift OIMs at a minimum of one per shift per year, using a hydrocarbon release of at least 1 tonne • The deliverables to include are: – Completed OPEP exercise report form (full completion of which will meet most of the OPEP Guidance Notes, September 2021[17] legislative requirements) – Completed action checklists – Completed incident log detailing events and actions – Completed exercise PON1 form, submitted via the OPRED Energy Portal • Deliverables to be submitted to IRIS under Planned HSSE Events and Emergency Exercise/Drill • Hard copies are to be stored offshore
ERRV	• Dispersant application kit (not dispersant) to be tested every month • Records to include: – Date when test was undertaken – Name of person(s) undertaking test – Details of actions identified during test

16 This OPEP covers offshore training and exercise requirements only. Onshore requirements are covered in the **Onshore OPEP (UK-PLN-4.6-1002)**.

17 Guidance Notes for Preparing Oil Pollution Emergency Plans for Offshore Oil and Gas Installations and Relevant Oil Handling Facilities, Revision 6, September 2021.

OPEP Drill/Exercise Form

Exercise Plan

<table>
<tr><th>Date</th><th>Time</th><th colspan="2">OIM Name</th><th>HSEA Name</th><th>Asset Name</th></tr>
<tr><td></td><td></td><td colspan="2"></td><td></td><td></td></tr>
<tr><th colspan="2">Responding Emergency Response (ER) Team</th><th colspan="4">Exercise Details</th></tr>
<tr><th>Name</th><th>ER Position</th><td colspan="4" rowspan="5">Exercise Scenario:</td></tr>
<tr><td colspan="2"></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td><td colspan="4" rowspan="4">Exercise Objectives:</td></tr>
<tr><th colspan="2">Personnel in Training</th></tr>
<tr><th>Name</th><th>ER Position</th></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td></tr>
<tr><td></td><td></td><td colspan="4" rowspan="2">Equipment to be utilised (include ERRV/PSV name):</td></tr>
<tr><td></td><td></td></tr>
</table>

Exercise Closeout

Debrief Points	Action Required

Exercise Learning/Procedure Amendments	Action Required

IRIS number:		**Action checklists completed?**	**Yes** ☐ **No** ☐
Exercise PON1 submitted?	**Yes** ☐ **No** ☐	**Incident log completed?**	**Yes** ☐ **No** ☐
Action required from Dyce ER Team?	**Yes** ☐ **No** ☐	**Communication of learnings required to OIM network?**	**Yes** ☐ **No** ☐

OIM Signature:		**Date:**		**HSEA Signature:**	**Date:**

Note: The completed OPEP Drill/Exercise Form and Action Checklists are to be submitted to IRIS; refer to **Exercise Reporting Requirements**.

Exercise Reporting Requirements

- Frequency: All OIMs are required to complete one OPEP exercise per year
- IRIS entry: Once an exercise is complete, it must be submitted to IRIS in the following location:
  - Select 'Planned HSSE Events', then 'Emergency Exercise/Drill' against 'Emergency Exercise/Drill Type', classify as 'Table Top Exercise'
  - Against 'Emergency Exercise/Drill Focus Area', classify as 'OMS Sub-element = 4.6 Crisis and Continuity Management and Emergency Response'
  - 'Submit' entry sheet, then populate 'Focus Area/Finding/Action' and 'Reports/Documents' tabs (at minimum)
- Required documentation: The following documentation should be submitted for each OPEP exercise:
  - Completed OPEP drill/exercise report form (full completion of the exercise report form will meet most of the OPEP Guidance Notes, September 2021[18] legislative requirements)
  - Completed Action Checklists
  - Completed exercise PON1 form submitted via OPRED Energy Portal

Please contact Fraser Stubbs, bp Oil Spill & Emergency Response Advisor, for further information [redacted]

18 Guidance Notes for Preparing Oil Pollution Emergency Plans for Offshore Oil and Gas Installations and Relevant Oil Handling Facilties, Revision 6, September 2021.

Section
3

Response Justification

1 Introduction

1.1 Scope

This section provides supporting information to justify the levels of response preparedness specified in this Temporary Operations Oil Pollution Emergency Plan (TOOPEP) for assets located in the United Kingdom Continental Shelf (UKCS). It has been prepared in accordance with guidance provided by Offshore Petroleum Regulator for Environment and Decommissioning (OPRED), namely Guidance Notes for Preparing Oil Pollution Emergency Plans for Offshore Oil and Gas Installations and Relevant Oil Handling Facilities, Revision 6, September 2021.

This document specifically applies to the NEP Bunter outcrop borehole operations, including any associated drilling, sampling/coring and borehole abandonment.

1.2 Environmental Risk and Response Arrangements

The Operator's Safety and Environmental Systems are embedded within their Operating Management System (OMS), which provides the framework for the operating entities to achieve safe and reliable operations. The OMS aims to provide a uniform approach to every element of operating for all offshore installations. The purpose of the OMS is to ensure that, as far as reasonably practicable, all activities are undertaken in accordance with company procedures and are compliant with all relevant statutory provisions. The framework for OMS and the integral arrangements for environmental management are built around the International Standards Organisation principles and the following six key elements which are also addressed by the OMS Performance Improvement Cycle (PIC):

- Intent
- Risk assessment and prioritisation
- Planning and controls
- Implementation and operation
- Measurement, evaluation and corrective measures
- Management review and improvement

2 Field Response Justification

2.1 Containing Systems and Release Sizes

2.1.1 Diesel

The topside inventories for the Valaris Norway are detailed in **ROff 1.7.1 Hydrocarbon Inventories and Borehole Data**. The largest single diesel store onboard the Valaris Norway is Diesel Storage Tank 13C, with a total volume capacity of 389.6m^3. Overall, the total diesel volume capacity onboard the Valaris Norway is 924.3m^3.

2.1.2 Borehole

A shallow gas assessment was completed and the risk of encountering shallow hydrocarbon/gas at the proposed location is negligible.

2.1.3 Pipelines

There are no pipelines associated with the Bunter outcrop borehole operations.

2.2 Stochastic Modelling

5.5 years of hydrodynamic data (sourced from Offshore Energies UK) were used as model inputs and the following scenarios were modelled:

Scenario 1: Release of 924.5m^3 marine diesel

Refer to **Section 2, Paragraph 6.1.1 Stochastic Modelling Input Data** for further details on the modelling parameters.

2.3 Receiving Environment

The location of the NEP Bunter outcrop borehole is environmentally sensitive, as the borehole lies within the Southern North Sea SAC (summer area) designated for the protection of harbour porpoise. This TOOPEP describes a high-level overview of the local environmental conditions. The main potential impacts are:

- Seasonal seabird vulnerability: seabird vulnerability is highest in the months between May and January.
- Seasonal fisheries sensitivities: Block 43/28 offers fisheries nursery and spawning habitats throughout the year, particularly for the following species:
  - Mackerel (spawning May to August)
  - Lemon Sole (spawning April to September)
  - Cod (spawning January to April)
  - Whiting (February to June)
  - Sprat (May to August)
  - Nephrops (all year round)
- Cetacean sensitivities: The borehole lies within the Southern North Sea SAC (summer area) designated for the protection of harbour porpoise. The following cetacean species have had medium to high sightings in the vicinity of Block 43/28:
  - Minke whale (May to September)
  - White-beaked dolphin (June to October)
  - Harbour porpoise (March to September)

2.4 Metocean Data

Surveys and observations from the NEP Bunter outcrop area describe the key metocean features as follows.

Metocean Data	
Currents	The current pattern in the North Sea is dominated by tidal circulation, centred around three amphidromic points; in the Southern North Sea (SNS) (between East Anglia and the Netherlands), in the Central North Sea (in the German Bight), and in the Northern North Sea (close to the Norwegian coastline). Maximum surface current speeds are mainly in excess of 0.5 ms-1 out to about 50km offshore, decreasing eastwards to less than 0.25 ms-1 (BEIS, 2016). Residual circulation in the area is southerly along the UK coast and easterly offshore (BEIS, 2016).
Tidal regime	Amplification of the tidal wave in the SNS results in a large tidal range along the coast. Mean spring tidal range is between 2 and 6 m. Maximum tidal ranges are between the Humber and the Wash, particularly around Skegness (Tappin et al., 2011).

Metocean Data	
Wind regime	Winds in the Southern North Sea (SNS) are generally from between south and north-west; however, in the spring the frequency of those from the north and east increases. Wind strengths are generally between 1 to 11 metres per second (ms^{-1}) in the summer months, with a greater proportion of strong to gale force winds (14 to 32 ms^{-1}) in winter (BEIS, 2016).
Seabed	The Bunter Outcrop is an area of exposed bedrock, standing up to 15 m proud of the surrounding seabed and varying between 0.05 and 2.5km in length. Numerous sandwaves were also present across the area. Seabed sediments generally comprise offshore circalittoral sand and offshore circalittoral coarse sediment.

2.5 Counter Pollution Response

bp has in place the necessary resources to provide a commensurate level of response to the size of releases they may encounter and are compliant with the requirements as detailed within the OPRED Oil Pollution Emergency Plan (OPEP) guidance notes[19]. The response is based upon the standard three-tiered system and is defined as follows:

Tier 1: Monitoring and surveillance, and dispersant spraying using infield vessels.

Tier 2: Aerial surveillance available within 4 to 6 hours through OSRL and aerial dispersant capability also available within 6 hours.

Tier 3: A full Tier 3 capability is available through OSRL.

2.6 UK Shoreline Response and Chemical Dispersant

The results from the scenarios modelled and set out in **Section 2 Paragraph 6 Hydrocarbon Pollution Modelling** indicate that:

- A potential worst-case instantaneous diesel release is not predicted to impact the UK shoreline
- A potential worst-case well blowout is predicted to impact the UK shoreline in a minimum of 37 days

The primary decision in the event of a release is whether or not it is believed the hydrocarbon will disperse naturally in the marine environment, without affecting sensitive resources. If it is believed that it will, dispersant treatments are to be avoided. Natural dispersion by wave action is the preferred method of dispersion but should any sensitive resources be threatened by surface hydrocarbon, it is likely that dispersant application onto fresh hydrocarbon will be engaged.

19 Guidance Notes for Preparing Oil Pollution Emergency Plans for Offshore Oil and Gas Installations and Relevant Oil Handling Facilities, Revision 6, September 2021.

In the event of a very large release affecting sensitive shorelines or other environmental sensitivities, it may be that dispersant treatment is justified. The window of dispersant effectiveness will also have an influence on the decision of whether or not to spray dispersant. Any response involving the use of dispersant will be done in consultation with OPRED, who will in turn liaise with the relevant authorities for the territorial waters in which the use of dispersant is being considered.

Current PON1 Guidance[20] requires that any consideration given to the use of chemical dispersant as a response strategy for a hydrocarbon release will be done in consultation with OPRED.

2.7 Response Contracts

2.7.1 Hydrocarbon Release Response Contractor

bp has a contractual agreement with OSRL to provide assistance with responding to a hydrocarbon release in the UKCS. OSRL can provide aerial surveillance and dispersant spraying capabilities and will provide support to bp in the event of a Tier 2 or 3 hydrocarbon release in the UKCS. Should a response be required, OSRL will work with the Dyce IMT and provide services and equipment at the NEP Bunter outcrop as required.

bp has a contractual agreement with Briggs Environmental Services which may be mobilised to assist, should further support be required for either offshore or shoreline response operations.

2.8 Response Effectiveness

Offshore Energies UK has published the Oil Spill Response Effectiveness in the UK Water Guidelines, which outlines spill response systems and their effectiveness ‘in responding to an oil spill, on the basis of an analysis of the frequency, duration, and timing of environmental conditions that would preclude a response’. The guidelines do not address efficiency of the different response systems, which is situation and case-dependent.

A copy of the ‘Oil Spill Response Effectiveness in the UK Water Guidelines’ is available at Offshore Energies UK’s website.

20 OPRED PON1 Guidance Document, September 2021.

3 Response Conclusion

bp's response capability for both counter-pollution and containment, as detailed within this document, reflects that the necessary resources are in place to provide a commensurate level of response to a worst-case release resulting from operations within the NEP Bunter outcrop. In addition, bp has considered the technical and operational requirements necessary to support various situations.

To ensure that the resources and support required are appropriate to the release size that may be encountered, modelling has been undertaken. The scenarios are based on worst-case events to ensure they comply with all the requirements as detailed within the OPRED OPEP Guidance.[21]

21 Guidance Notes for Preparing Oil Pollution Emergency Plans for Offshore Oil and Gas Installations and Relevant Oil Handling Facilities, Revision 6, September 2021.