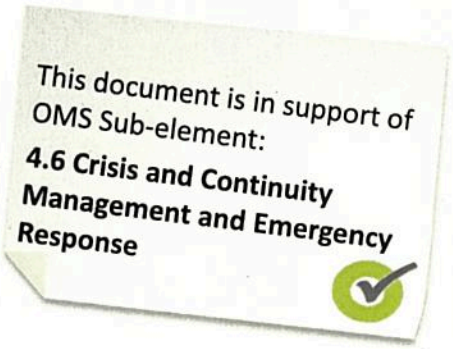
OPEP 1502



Schiehallion

Schiehallion Offshore Oil Pollution Emergency Plan and Justification Document

OMS SPR:		**Document Custodian:**	
Document Administrator:		**Applicability:**	Schiehallion
Issuing Department:	S&OR	**Control Tier:**	4
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Revision Summary:	Update to off-station date for Schiehallion FPSO. For further information contact DCC at ODL on 01224 628018 or dcc@odl.co.uk.		
Document Location:	Documentum/ABZ Federal/OMS/Schiehallion/4_0 Procedures/4_6 Crisis and Continuity Management and Emergency Response.		

SCH-EM-002

ROff 1.Offshore Response Action Plan

❶ *Refer to the Response Action Plan below for an overview of key response activities to be undertaken by offshore responders.*

❷ *Use Overview 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 1 - Initial Notifications

Time	OIM
⏱ 0-20	From initial spill report: ☐ Establish safety issues. ☐ Establish spill parameters. ☐ Determine Primacy. ☐ Take initial safety actions. ☐ Take action to stop / isolate spill .

Step 2 - Mobilise Resources

Time	OIM
⏱ 20-40	☐ Mobilse Required Team. ☐ If necessary, minimise risk to personnel / platform by using RSV / ERRV dispersant (if oil is amenable to dispersant).

Step 3 - Assess and Quantify

Time	OIM
⏱ 40-45	☐ Assess actual / potential quantity. ☐ Determine escalation potential.

Step 4 - Company and Regulatory Reporting

Time	OIM
⏱ 45-60	☐ Undertake mandatory External and Internal notifications. ☐ Complete & submit PON 1 < 6 hours.

OIM RESPONSE CHECKLIST

Step 1 - Initial Notifications

Timescale: 0 – 20 minutes		Actioned	Pg
1.	Receive notification of spill: Location; time; source; cause; oil type; quantity; appearance of oil; escalation potential; weather.	☐	N/A
2.	Record details onto the initial spill report. ➲*ROff 1.1 - Initial Spill Report Form*. Log all subsequent events and calls. Refer to ➲*ROff 1.2 – Platform Data* for supporting information.	☐	*1-5* *1-6*
3.	Assume role of On-scene Coordinator (OSC).	☐	N/A
4.	If spill from drilling installation confirm primacy and roles and responsibilities of BP and Drilling contractor.	☐	*14*
5.	Muster as necessary and suspend hot work permits.	☐	ERP
6.	If safe to do so, take action to stop spill.	☐	ERP

Step 2 - Mobilise Resources

Timescale: 20 – 40 minutes		Actioned	Pg
7.	Mobilise offshore team members to support response.	☐	ERP
8.	Confirm ERRV is aware of the incident & provide spill report.	☐	ERP
9.	If personnel at risk instruct ERRV to spray onboard dispersant if amenable (no endorsement from authorities required).	☐	N/A
10.	Notify SVT TCC and BP IMT Duty Manager through Dyce Control Room. Brief of the situation & agree support required. ➲*ROff 1.11 – Offshore Notification Matrix.*	☐	*1-14*
11.	If dispersant has been sprayed, notify BP Onshore IMT A.S.A.P ➲*ROff 1.11 – Offshore Notification Matrix.*	☐	*1-14*

Step 3 - Assess and Quantify

Timescale: 40 – 45 minutes		Actioned	Pg
12.	If spill source known quantify from Schiehallion Hydrocarbon Inventories ➲*ROff 1.4, ROff 1.5 and ROff 1.6.*	☐	*1-8 - 1-11*
13.	If spill source / oil quantity unknown request ERRV to estimate spill size from appearance. ➲*ROff 1.7 – Spill Size Estimation Matrix* and ➲*ROff 1.10 – Conversion Table.*	☐	*1-12* *1-14*
14.	If unable to quantify, request surveillance flight through IMT, once mobilised, or utilise infield crew change helicopter if available.	☐	N/A

Step 4 - Company and Regulatory Reporting

Timescale: 45 - 60 minutes		Actioned	Pg
15.	Establish where other operators may have responsibility for the response. Request IMT to manage handover. ➲*ROff 1.5 and ROff 1.6.*	☐	*1-10* *1-11*
16.	Report spill to Coastguard & others as per company and regulatory requirements ➲*ROff 1.11 - Offshore Notification matrix.*	☐	*1-14*
17.	When possible (< 6 hours) complete & send PON 1. ➲*ROff 1.12 – ePON 1 – Offshore Reporting.*	☐	*1-15*

CRO	RSV / ERRV
☐ Raise alarm inform OIM and RSV/ERRV.	☐ Raise the alarm by informing the CRO.

CRO	RSV / ERRV
☐ Isolate spill source. ☐ Alert assets in areas. ☐ Alert SVT.	☐ If requested by the OIM, spray dispersant.

CRO	RSV / ERRV
	☐ Locate spill and quantify size using. ➲*ROff 1.7 – Spill Size Estimation Matrix.*

CRO	RSV / ERRV

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❶ *Refer to the Response Action Plan below for an overview of key response activities to be undertaken by offshore responders.*

❷ *Use Overview 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 5 - Tracking and Sampling		CRO	RSV / ERRV
Time	OIM		
⏱ 60-70	☐ Track spill. ☐ Obtain evidence.		☐ Track spill. ➲ROff 1.13 – Manual Spill Tracking. ☐ Take sample & photographs.
Step 6 - Determine Response			
Time	OIM	CRO	RSV / ERRV
⏱ 70-100	☐ Determine actual / potential Tiered response level. ☐ Confirm response co-ordination for tiered level. ☐ Consider response strategy. ☐ Identify resources required.	☐ Keep assets updated.	☐ Conduct response as per OIM instructions. ☐ Monitor oil appearance & re-assess quantity.
Step 7 – Ongoing Response			
Time	OIM	CRO	RSV / ERRV
⏱ 100 +	☐ Continue to monitor & review response, weather & impact to environment. ☐ Keep onshore updated. ☐ Instigate investigation.		☐ Feedback spill parameters & fate to OIM.

OIM RESPONSE CHECKLIST ➲ Step 5 - Tracking and Sampling			
Timescale: 60 - 70 minutes		Actioned	Pg
18.	Task the ERRV to track the movement & parameters of the slick. ➲ROff 1.13 – Manual Spill Tracking. If ERRV unable to track spill request tracking to be done through the ERT. If crew change helicopter in area, consider using to provide an indication of general slick size, direction of travel and colour.	☐	1-16
19.	Direct ERRV to obtain sample and photographs if safe to do so. Ensure they follow the correct procedure. ➲ROff 1.14 – Spill Sampling Checklist.	☐	1-17
➲ Step 6 - Determine Response			
Timescale: 70-100 minutes		Actioned	Pg
20.	Identify environmental sensitivities & commercial activities from ERRV. Inform the IMT of key activities. Cross reference with environmental data in plan.	☐	19
21.	Monitor the appearance of the oil on the sea surface and inform the IMT of changes to its colour or quantity ➲ROff 1.9 – Bonn Agreement Oil Appearance Code.	☐	1-13
22.	With the IMT establish an appropriate Tiered response level. ➲ ROff 1.15 – Tiered Assessment Checklist.	☐	1-18
23.	Identify appropriate response strategy with the ERT, ➲ROff 1.16 – Response Strategy Options, ➲ROff 1.17 – Response and confirm resources available. ➲ROff 18 – Tiered Response Resources. If spill identified as Tier 2+ then primacy regarding coordination & strategy becomes the responsibility of the onshore BP IMT.	☐	1-19 1-20 1-21
➲ Step 7 - Ongoing Response			
Timescale: 100+ minutes		Actioned	Pg
24.	If deemed a suitable response and requested by the beach, utilise dispersant stockpile onboard ERRV. Before spraying request ERRV tests the amenability of the spilt oil to dispersants ➲ROff 1.19 – Testing Dispersant Efficiency Procedure. .	☐	1-22
25.	Continue tracking spill using infield additional resources ➲ROff 1.13 – Manual Spill Tracking.	☐	1-16
26.	Support Tier 2/3 resources arriving on-site. Maintain proximity primacy protocols.	☐	N/A
27.	If aerial surveillance aircraft mobilised liaise with aircraft when onsite & acquire interim report – update the onshore IMT.	☐	N/A
28.	Commence spill investigation.	☐	N/A

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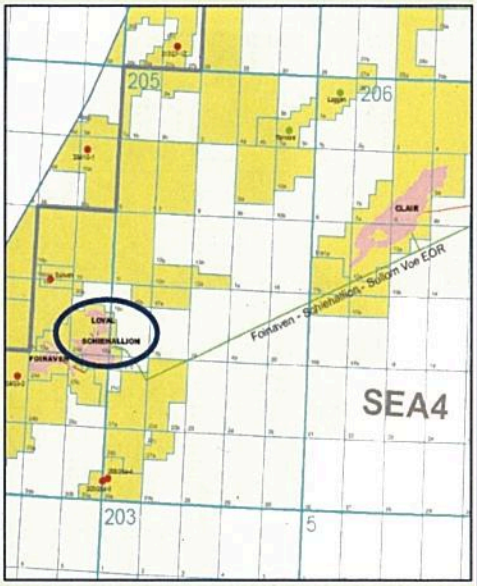
ROff 1.1. Initial Spill Report Form

To be completed by the OIM on receipt of initial notification.

Contact Details			
Date		Time	
Reportee			
Contact Number / Working Frequency			
Spill Details			
Location of Spill (Lat, Long & Block No.)			
Source of Spill (If Known)			
Cause of Spill (If Known)			
Quantity of Spill (If Known)			
Appearance of Oil			
Direction of travel of Spill (If Known)			
Current Weather at Spill Location			
Wind Direction			
Wind Speed			
Current Weather			
Cloud Cover			
Sea State			
Wave Height			

ROff 1.2. Platform Data

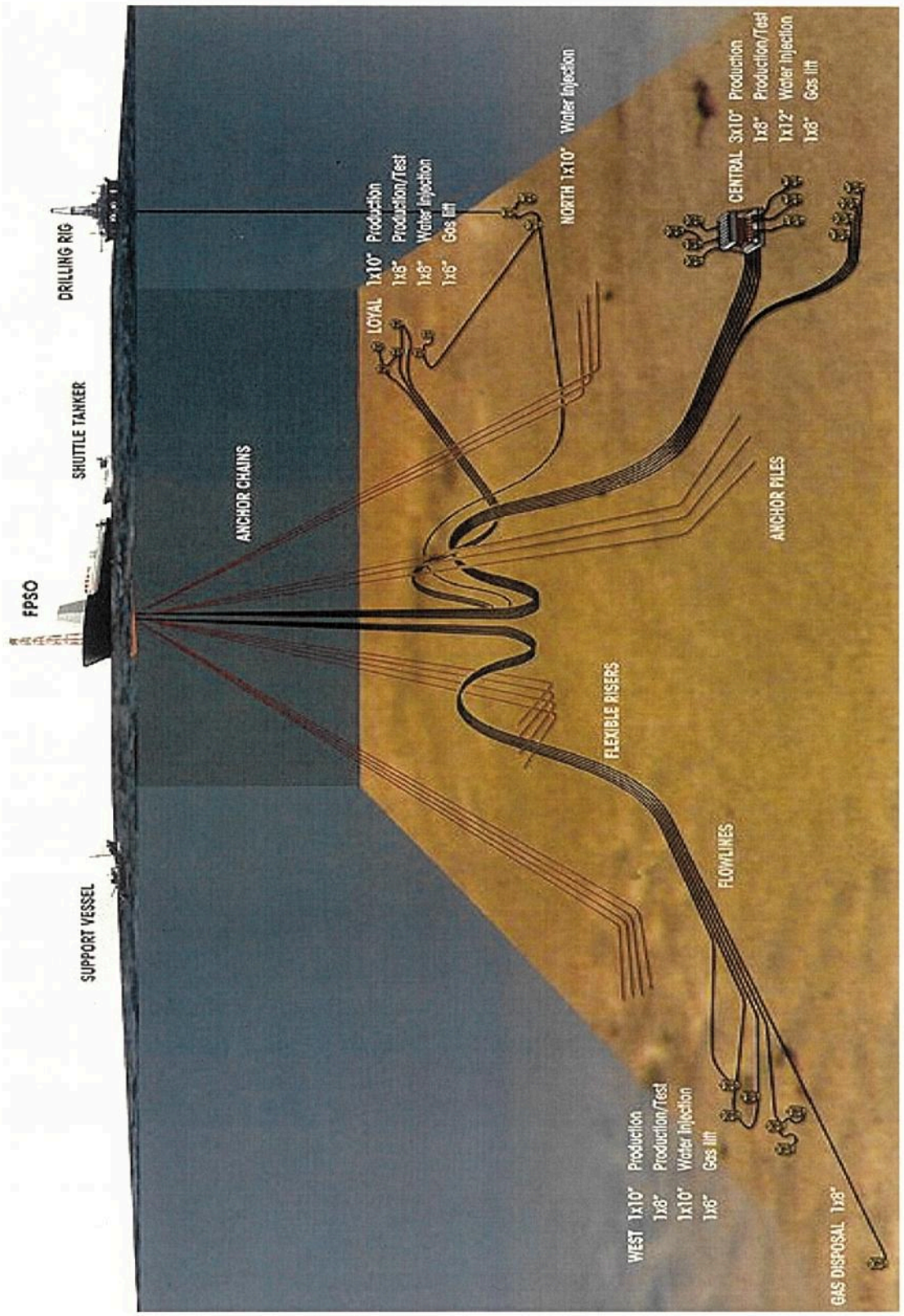
Schiehallion



Facility Type	FPSO		
Block Number	204/15 & 204/20		
Latitude	N 60° 20' 08"		
Longitude	W 04° 02' 05"		
Duty Holder/ License / Operator	BP E&P UK		
Primary Responder	Schiehallion OIM		
Primary Support	BP E&P UK		
Nearest Points of Land from Schiehallion	Foula		110 km E
	Papa Westray		126 km SE
	Papa Stour		129 km E
	Fair Isle		163 km SE
	Trongisvagur (Faroes)		201 km NW
Nearest Installations	**Field**	**Bearing**	**Distance**
	Foinaven	248^0	12 km
	Clair	65^0	91 km
Nearest Trans Boundary Line	Faroes 37km		
Water Depth	400 metres		
Hydrocarbon Types	Crude Oil & Gas		

ROff 1.3. Schiehallion Infrastructure

The diagram below indicates the infrastructure covered by this OPEP. Please see *ROff 1.5* and *ROff 1.6* for specific infrastructure details.



ROff 1.4. Topside Hydrocarbon Storage Inventories

FPSO – Hydrocarbon Storage Areas	Type	Volume / Capacity
Process Plant	Crude	2,900m³
Export Hose (stoppage time <60 seconds)	Crude	4,500m³ - 7,000m³ / hr
Test Separator	Crude & Gas	42.5m³ Crude & 63m³ Gas
Slug Catcher Skids	Crude & Gas	66m³ Crude & 98m³ Gas per vessel (2 x vessels)
1st Stage Separator / Heater Skids	Crude & Gas	106m³ & 158m³ Gas 2x heater = 1m³ Crude
2nd Stage Separator / Heater Skids	Crude & Gas	118m³ Crude & 95m³ Gas
Transfer Pumps	Crude	10m³
1st Stage Compression	Condensate & Gas	1.7m³ Condensate & 8.6m³ Gas
2nd Stage Compression	Condensate & Gas	1.1m³ Condensate & 4.6m³ Gas
Dehydration & Fuel Gas System	Condensate & Gas	34.7m³
3rd Stage Compression	Condensate & Gas	1m³ Condensate & 3.8m³ Gas
Cargo Loading Main	Crude & Water	42.7m³
Cargo Offloading Main	Crude & Water	106.3m³
Cargo Offloading downstream of main and upstream of ESDV	Crude & Water	26m³
Cargo Offloading Hose	Crude & Water	26m³
Closed Drain Tank	Crude, Condensate & Water	19m³
Cargo Oil 1 (Port & Starboard)	Crude	15,430m³
Cargo Oil 2 (Port & Starboard)	Crude	20,864m³
Cargo Oil 3 (Port & Starboard)	Crude	20,864m³
Cargo Oil 4 (Port & Starboard)	Crude	20,864m³
Cargo Oil 5 (Port & Starboard)	Crude	20,864m³
Cargo Oil 6 (Port & Starboard)	Crude	25,036m³
Cargo Oil 7 (Port & Starboard)	Crude	20,864m³
Slops Tanks (Port & Starboard)	Oily Water	8,346m³
Diesel Main Storage Tanks	Diesel	2 x 1,700m³
Diesel Service Tanks	Diesel	2 x 50m³
Aviation Fuel Main Storage Tank	ATK	13.7m³
Main Storage Tank	Lub / Hyd Oil	29m³

Shuttle Tanker Capacities – Hanne Knutsen	Type	Volume / Capacity
Cargo Oil Tank No. 1 (Port & Starboard)	Crude	8,857.1m³ & 8,878.4m³
Cargo Oil Tank No. 2 (Port & Starboard)	Crude	11,641.7m³ & 11,669.7m³
Cargo Oil Tank No. 3 (Port & Starboard)	Crude	11,641.7m³ & 11,669.7m³
Cargo Oil Tank No. 4 (Port & Starboard)	Crude	11,641.7m³ & 11,669.7m³
Cargo Oil Tank No. 5 (Port & Starboard)	Crude	11,641.7m³ & 11,669.7m³
Cargo Oil Tank No. 6 (Port & Starboard)	Crude	11,503.9m³ & 11,531.1m³
Slop Tanks x 2	Oily Water	8346m³
Diesel Oil Service - 15	Diesel	79m³
Diesel Oil Settling – 14	Diesel	79m³
Diesel Oil Storage – 13	Diesel	107m³
Diesel Oil Storage – 26P	Diesel	502m³

Shuttle Tanker Capacities – Loch Rannoch	Type	Volume / Capacity
Cargo Oil Tank No. 1 (Port & Starboard)	Crude	5135.1m³ & 5135.1m³
Cargo Oil Tank No. 2 (Port & Starboard)	Crude	7702.1m³ & 7702.1m³
Cargo Oil Tank No. 3 (Port & Starboard)	Crude	7741.8m³ & 7741.8m³
Cargo Oil Tank No. 4 (Port & Starboard)	Crude	7741.8m³ & 7741.8m³
Cargo Oil Tank No. 5 (Port & Starboard)	Crude	7741.8m³ & 7741.8m³
Cargo Oil Tank No. 6 (Port & Starboard)	Crude	6381.7m³ & 6381.7m³
Slop Tanks x 2	Oily Water	3369.2m³
Diesel Oil Storage Tank (Port)	Diesel	101m³
Diesel Oil Storage Tank (Starboard)	Diesel	101m³
Diesel Oil Service Tank (Port)	Diesel	46m³
Diesel Oil Service Tank (Starboard)	Diesel	46m³

ROff 1.5. Production Flowlines & Riser Hydrocarbon Storage Inventories

Elements	Schiehallion Drill Centre Central (18 Wells)			Schiehallion Drill Centre West (8 Wells)		
Latitude	N 60°20'08"			N 60°19'58"		
Longitude	W 04°02'05"			W 04°05'49"		
To	Schiehallion FPSO			Schiehallion FPSO		
Pipeline number	PL-1384 PL-1385 PL-1386	PL-1387	PL-1396 (GL) PL-2167 (GL/GE)	PL-1415 PL-2141	PL- 1416	PL-1420 (Gas Lift)
Diam / Length	3 x 10" / 3.416 km (longest)	8" / 3.42 km	8" / 3.76 km (GL) & 3.07 km (GL/GE)	2 x 10" / 3.627 km & 3.707km	8" / 3.69 km	6" / 3.403 km
Contents / Volume	Crude / 468.2m^3	Crude / 94.9m^3	Gas / 109.9m^3 (GL) & 80m^3 (GL/GE)	Crude / 334.4m^3	Crude / 102.5m^3	Gas / 56.9m^3
Flow Rate	40mbd	40mbd	30mmscfd	25mbd	40mbd	32mmscfd
Shutdown Time	60s	60s	60s	60s	60s	60s
Owner	BP			BP		
Operator	BP			BP		
Tier 1 Responder	Schiehallion OIM			Schiehallion OIM		
Tier 2/3 Responder	BP			BP		

Elements	Schiehallion Drill Centre Loyal (4 Wells)			Schiehallion FPSO	Schiehallion Drill Centre North West (1 Well)	
Latitude	N 60°24'42"			N 60°19'43"	N 60°22'56"	
Longitude	W 04°03'18"			W 04°09'40"	W 04°05'53"	
To	Schiehallion FPSO			Schiehallion Gas Disposal (1 Well)	Schiehallion FPSO	
Pipeline number	PL- 1360	PL-1361	PL-1365	PL-1431	PL-2245	PL-2248 (gas Lift)
Diam / Length	10" / 6.628 km	8" / 6.583 km	6" / 6.170 km	8" / 7.389 km	10" / 3.743 km	8" / 3.380 km
Contents / Volume	Crude / 302.2m^3	Crude / 182.6m^3	Gas / 103.2m^3	Gas / 205.0m^3	Crude / 170.6m^3	Gas / 87.8m^3
Flow Rate	16mbd	16mbd	30mmscf	30mmscfd	11mbd	30mmscfd
Shutdown Time	60s	60s	60s	60s	60s	60s
Owner	BP			BP	BP	
Operator	BP			BP	BP	
Tier 1 Responder	Schiehallion OIM			Schiehallion OIM	Schiehallion OIM	
Tier 2/3 Responder	BP			BP	BP	

ROff 1.6. Pipeline Hydrocarbon Storage Inventories

Elements	Schiehallion Manifold M1C	Foinaven FPSO (Manifold M3)
Latitude	N 60° 21' 25"	N 60° 17'25.10"
Longitude	W 04° 03' 57"	W 04° 06' 59.48"
To	Magnus (BP) via Sullom Voe Terminal	Schiehallion Manifold M1C
Diam / Length	12" / 16.9km, 20" / 188km	10" / 7km
Contents / Volume	Gas / 1158m^3 / 33035m^3	Gas / 340m^3
Flow Rate	75,000m^3/hr	25MMscfd
Shutdown Time	25 mins	60 seconds
Owner	BP	BP
Operator	BP	BP
Tier 1 Responder	Sullom Voe Terminal	Foinaven
Tier 2/3 Responder	BP	BP
BP Response Parameters	Schiehallion OIM up to the Outboard 6" DMaC Pullhead Assembly (M1C-F82) at the Schiehallion Gas Distribution Manifold (M1C) BP Sullom Voe Terminal Primacy after this point.	Foinaven OIM to Schiehallion manifold 500m zone
BP Interface Reference	WOSPS-EM-001	WOSPS-EM-001

ROff 1.7. Spill Size Estimation Matrix

Example & Bonn Agreement Oil Appearance Code overleaf.

Calculate Spill Coverage

If the source / quantity is unknown then a visual estimation can be attained based on the relationship between observed oil colour and its thickness using the Bonn Agreement Oil Appearance Code. This can be achieved by taking observations directly from the platform, RSV/ERRV, crew change helicopter or dedicated aerial surveillance aircraft.

Average Width (km)		Km²	Average Length in (km)		Km²
Step 1	Total Area (Width x Length) km²				Km²
Step 2	Oil Spill Area (Estimated) km²				km²

Step 1. *Total area:* Estimate total size of the area as a square or rectangle (in km²).

Step 2. *Oil Spill Area:* Assess the area affected by the slick in km^2 calculated as a % of the total area (i.e. 90% of 20 km² = 18 km²).

Step 3. *Calculate area by colour:* Estimate the area covered by each colour of oil as a % of area affected in km² (i.e. 60% silvery, 40% metallic).

Step 4. *Calculate quantity by colour:* Multiply the area covered by each colour (Min and Max) by the appropriate quantity of oil in the table (i.e. 18 km^2 x 0.04 & 0.3 for silvery & 18 km^2 x 5 & 50 for metallic).

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

Step 6. *Conversion:* If necessary you can covert m^3 to tonnes by multiplying total quantity in m³ by the Specific Gravity of the spilt oil.

Colour	Code	Minimum (M³ / Km²)	Maximum (M³ / Km²)	*(Step 3)* % of Area Affected	*(Step 3)* Area Covered Km²
Oil Sheen Silvery	1	0.04	0.3		
Oil Sheen Rainbow	2	0.3	5.0		
Oil Sheen Metallic	3	5.0	50		
Discontinuous True	4	50	200		
Continuous True	5	200	200		

Calculation for Area Covered: - *Km² = Area / 100 x % of Area Covered.* This should be calculated for each code to give Area Covered by Colour.

Colour	*(Step 3)* Area Covered Km²	*(Step 4)* Min Volume (M³)	*(Step 4)* Max Volume (M³)
Oil Sheen Silvery			
Oil Sheen Rainbow			
Oil Sheen Metallic			
Discontinuous True			
Continuous True			
Step 5 Total Volume (M³)			
Step 6 Total Volume in Tonnes (M³ x SG) *(➲ A3.5 – Schiehallion Field Oil Properties)*			

ROff 1.8. Spill Size Estimation - Example

Average Width (km)	5	Km
Average Length in (km)	4	Km
Total Area (Width x Length) km²	20	Km²
Oil Spill Area (Estimate)	18	Km²

Colour	Code	Minimum (M³ / Km²)	Maximum (M³ / Km²)	% of Area Covered	Area Covered Km²
Oil Sheen Silvery	1	0.04	0.3	60%	10.8 Km²
Oil Sheen Metallic	3	5.0	50	40%	7.2 Km²

Colour	Area Covered Km²	Minimum Volume (M³)	Maximum Volume (M³)
Oil Sheen Silvery	10.8 Km²	0.432 m^3	3.24 m^3
Oil Sheen Metallic	7.2 Km²	36 m^3	360 m^3
	Total Volume (M³)	*36.4 m^3*	*364 m^3*

ROff 1.9. Bonn Agreement Oil Appearance Code

A laminated "Quickguide" is located at the back of this section to aid with initial calculations.

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

ROff 1.10. Conversion Table

Conversion from	Quantity	Conversion to	Quantity
Barrel (US Petroleum)	1	Litre	158.987
Barrel (US Petroleum)	1	Metre ³ (cubed)	0.158
Kilometres	1	Nautical Mile	0.539
Statute Mile	1	Nautical Mile	0.868
Metre ³ (cubed)	1	Gallon (US Liquid)	264.172
Gallon (US Liquid)	1	Litre	3.785
Metre ³ to Tonnes = (M^3 x SG)		Tonnes to Metre ³ = (T/SG)	

ROff 1.11. Offshore Notification Matrix

Initial notifications to be undertaken by the OIM.

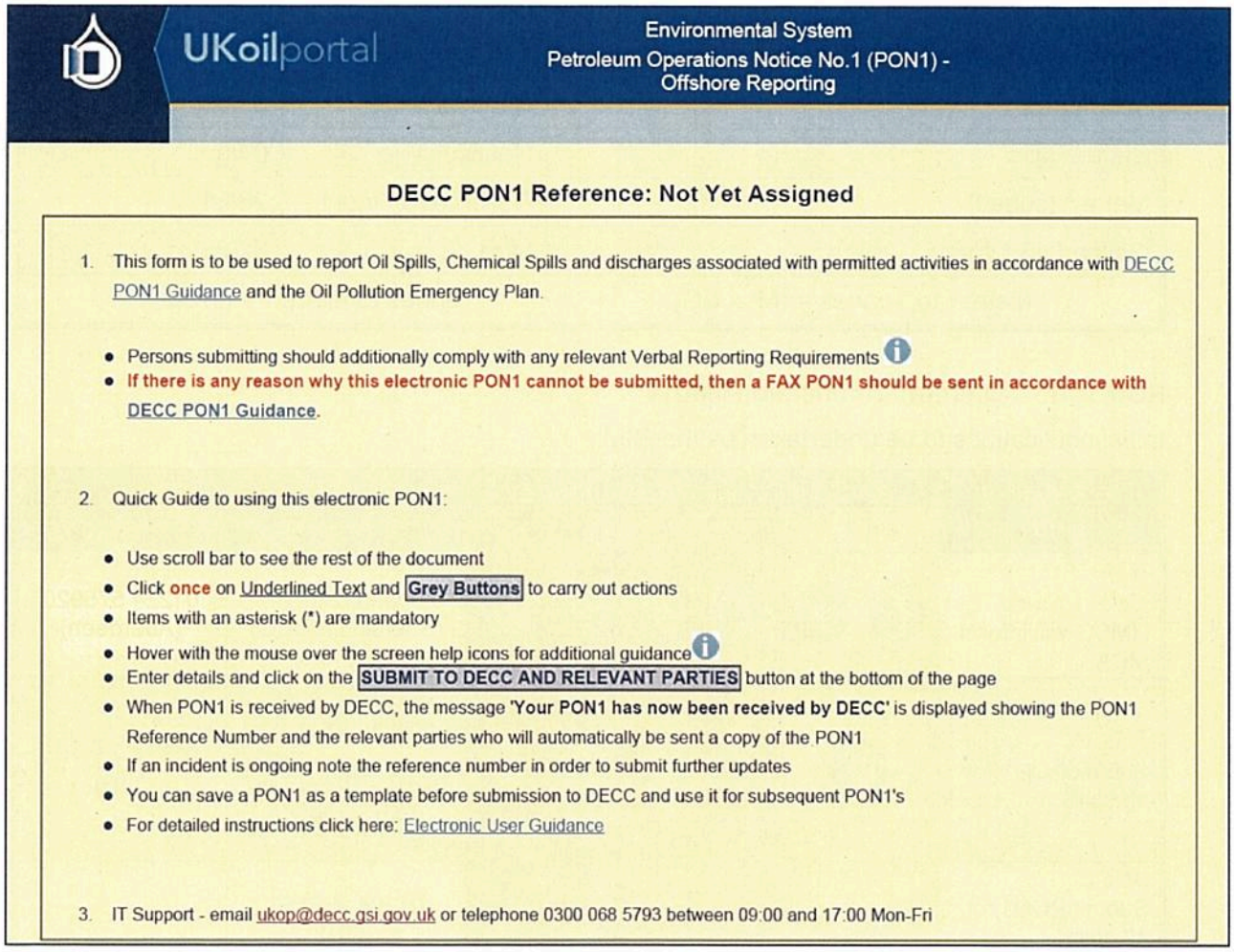
Regulatory Body	Spill Criteria in Tonnes			Tel No	Fax No
	< 1	1 – 25	> 25		
HM Coastguard HMCG will inform MCA.				01595 692976 (Shetland MRCC)	
DECC Submit PON1 for **all** spills.				01224 254058 (Incident Desk OH) 0207 2153234 or 0207 2153505 (Duty Officer OOH)	01224 254100 (OH)
JNCC Submit PON1 for **all** spills. JNCC will notify relevant SNCA if necessary.				01224 266553 (OH) 0797 425 7464 (24hrs)	01224 896170
Sullom Voe Terminal TCC Offsites CRO					
BP Dyce Control Room					
Sullom Voe Vessel Traffic Service (VTS)				01806 242344 Follow up by DCR	01806 242118

Key:-

Submit ePON 1 via UK Oil Portal *www.og.decc.gov.uk/portal.htm*	**Telephone Immediately**
If the UK Oil Portal is unavailable, revert to submission of PON1 via fax.	
OH **Office Hours**	*OOH* **Out of Office Hours**

ROff 1.12. ePON 1 – Offshore Reporting

Log into UK Oil Portal to access electronic PON1s (***www.og.decc.gov.uk/portal.htm***).



UKoilportal

Environmental System
Petroleum Operations Notice No.1 (PON1) -
Offshore Reporting

DECC PON1 Reference: Not Yet Assigned

1. This form is to be used to report Oil Spills, Chemical Spills and discharges associated with permitted activities in accordance with DECC PON1 Guidance and the Oil Pollution Emergency Plan.

   - Persons submitting should additionally comply with any relevant Verbal Reporting Requirements
   - **If there is any reason why this electronic PON1 cannot be submitted, then a FAX PON1 should be sent in accordance with DECC PON1 Guidance.**

2. Quick Guide to using this electronic PON1:

   - Use scroll bar to see the rest of the document
   - Click **once** on Underlined Text and **Grey Buttons** to carry out actions
   - Items with an asterisk (*) are mandatory
   - Hover with the mouse over the screen help icons for additional guidance
   - Enter details and click on the **SUBMIT TO DECC AND RELEVANT PARTIES** button at the bottom of the page
   - When PON1 is received by DECC, the message **'Your PON1 has now been received by DECC'** is displayed showing the PON1 Reference Number and the relevant parties who will automatically be sent a copy of the PON1
   - If an incident is ongoing note the reference number in order to submit further updates
   - You can save a PON1 as a template before submission to DECC and use it for subsequent PON1's
   - For detailed instructions click here: Electronic User Guidance

3. IT Support - email ukop@decc.gsi.gov.uk or telephone 0300 068 5793 between 09:00 and 17:00 Mon-Fri

If the UK Oil Portal is unavailable, revert to submission of PON1 via fax. Refer to ***ROff 1.11 – Offshore Notification Matrix*** for relevant fax numbers.

ROff 1.13. Manual Spill Tracking

To be undertaken by the RSV / ERRV.

Manual Calculation of Surface Spill Trajectory

- An oil slick on the sea surface will move under the influences of:
- Wind speed / direction @ 3% of the speed & in the direction the wind is blowing from.
- Current speed & direction @ 100% of the current speed & in the direction the current is flowing to.
- Estimating slick movement may be done manually by "vector" addition using an estimate of current and wind effect. Use the below Table to plot the track of the oil.
- Latitude: Enter the latitude of the spill when first reported.
- Longitude: Enter the longitude of the spill when first reported.
- Wind: Enter the wind bearing and speed.
- Tide: Enter the tide bearing and speed.
- Elapsed: Calculate 3% wind speed over 8 hour elapsed period and, tidal bearing & speed.
- Plot: After calculating wind and tidal bearings for each hour to a maximum of 8 hours, calculate new latitude and longitude position of slick to a maximum of 8 hours.

Spill at 0 Hours							
Latitude	N /S		°		‘		‘
Longitude	E/W		°		‘		‘
Wind Bearing					°		
Wind Speed in Knots					Kts		
Tidal Bearing					°		
Tidal Speed in Knots					Kts		

Hours Elapsed	Wind Bearing (°)	Wind Speed (Kts)	3% of Wind Speed (Kts)	Tidal Bearing (°)	Tidal Speed (Knots)
1					
Spill Position		Lat: -		Long: -	
2					
Spill Position		Lat: -		Long: -	
3					
Spill Position		Lat: -		Long: -	
4					
Spill Position		Lat: -		Long: -	
5					
Spill Position		Lat: -		Long: -	
6					
Spill Position		Lat: -		Long: -	
7					
Spill Position		Lat: -		Long: -	
8					
Spill Position		Lat: -		Long: -	

ROff 1.14. Spill Sampling Checklist

To be undertaken by the RSV/ERRV. Guidance is taken from ***MCA STOP Notice 4_2001.***

No	Action	Notes
1	The sample should be taken in a clean container as provided in the spill sampling kit.	• Metal and plastic containers should be avoided since they may interfere with subsequent fingerprinting.
2	Care should be taken to sample the oil only.	Sampling may be done in a variety of ways: - • If the oil is sufficiently thick it should be possible to carefully skim the oil from the sea surface using a bucket or similar receptacle; • More than one pass may be required to achieve a sample of sufficient size; • Carefully transfer oil from bucket into clean glass jar; • Use of a container with a bottom outlet and tap is useful (with this device water can be drained off from the bottom); • A funnel can be used to improvise above receptacle, using the finger to release the water and retain the oil; • Where the oil is very thin use the absorbent pads provided; • The oil contaminated pad should be placed in a sealed airtight container for transport to the laboratory.
3	The following sample sizes provide guidance to what is required for laboratory analyses.	• For all oil types oils it is best practise to take at least 3 samples of 10ml; Always retain a sample. • Repeat every day the spill goes on, however it is best to consult MCA directly for guidance and requirements on ongoing sampling
4	Carefully store samples.	• Ensure jars are stored in safe place away from heat. • Samples should be sealed to prevent tampering – wire with lead and wax sealant – adhesive labels. All samples once bottled, should be placed in plastic bags and sealed. Ensure jars are stored in a cool (<5°C) dark area.
5	Label or accompanying documentation should contain the following information.	• Sample Identification No. e.g. YYMMDD / Company / Location. • Date, time and place (position) of sampling. • Name of Company and individual taking the sample. • Name of any witness to the sample being taken. • Method of sampling. • Purpose for which sample was taken. • Source if known or suspected. • Particulars of any photos or supporting evidence. • Whether or not dispersants have been used. • Wind direction, air & sea temp, sample description.
6	Samples should be submitted to the MCA Contractor's laboratory.	• Once a sample has been taken, agreement must be obtained from the MCA Counter Pollution Branch before it is analysed. Once agreement has been obtained, the Counter Pollution Branch will contact their analysis contractor to arrange for the sample to be collected by courier and analysed.

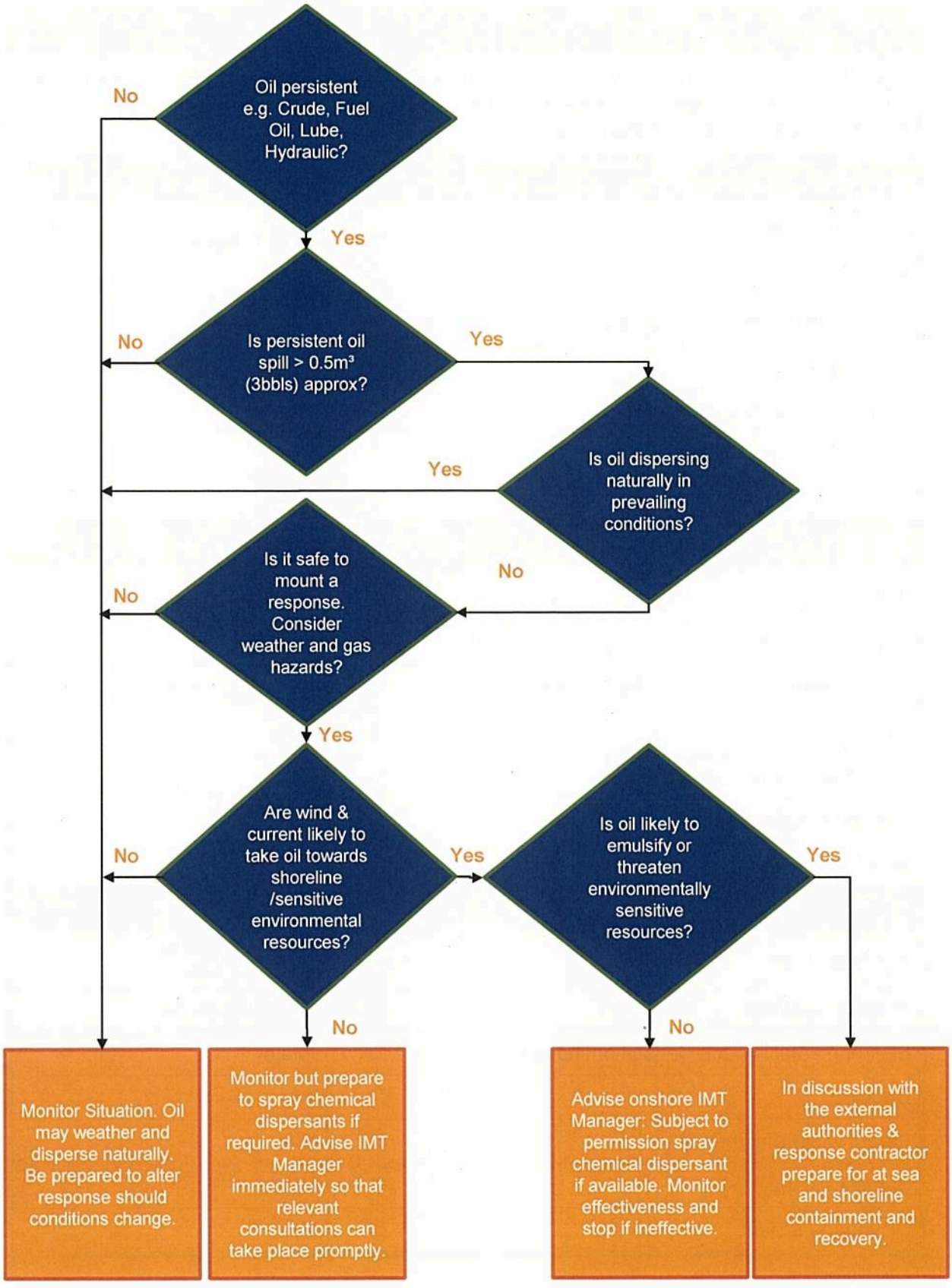
ROff 1.15. Tiered Assessment Checklist

Establish in conjunction with onshore IMT.

Conduct Tier Assessment		
Conduct the assessment below by ticking the relevant boxes against each criteria. Add up the total number of ticks per Tier. Report the Tier size as the one with the most ticks. If equal number of ticks select the highest Tier.		
Tier 1		
Actual spill size	☐	Small (<10 Tonnes)
Potential spill size	☐	Small
Environmental impact. Consult onshore Team	☐	Negligible
Ongoing	☐	No
Part of wider emergency	☐	No
Shoreline impact likely	☐	No
Oil very persistent	☐	No
Tier 2		
Actual spill size	☐	Medium (10 - 100 Tonnes)
Potential spill size	☐	Medium
Environmental impact. Consult onshore Team.	☐	Minor / Moderate
Ongoing	☐	No
Part of wider emergency	☐	No
Shoreline impact likely	☐	No
Oil very persistent	☐	Yes
Tier 3		
Actual spill size	☐	Large / Ongoing (> 100 Tonnes)
Potential spill size	☐	Large / Ongoing
Environmental impact. Consult onshore Team	☐	Major
Ongoing	☐	Yes
Part of wider emergency	☐	Yes
Shoreline impact likely	☐	Yes
Oil very persistent	☐	Yes

ROff 1.16. Response Strategy Options

To be confirmed in conjunction with onshore IMT.



ROff 1.17. Response Strategy Guidance

Natural Dispersion and Monitoring Response	Dispersant Spraying
Operational Considerations • Monitoring of large spills should ideally be carried out using a dedicated surveillance aircraft. Contact DCR and request assistance. • For smaller spills, and if it is safe for the Field RSV/ERRV to move away from the installation, identify heaviest concentrations of oil using the BAOAC. • Follow patches of heaviest oil concentration and watch and report on break-up of slick. • Determine and report direction of movement of other oil patches; note and report to DCR the movement of oil towards sensitive environmental resources. • Watch for and report any large flocks of birds or sea mammals on the sea surface. • Determine progress of natural dispersion or emulsion formation. Note that crude oil spilled at sea will undergo changes in appearance due to weathering. Thicker patches of crude oil will usually appear as dense black areas, but as emulsification occurs the colour will change to brown. • Condensate will naturally disperse very rapidly, within hours. • Diesel and base oil will rapidly spread out to form sheen and cannot be easily removed by dispersant or mechanical means. Diesel should naturally disperse within hours. • Light crude oils will take about 1-3 days to naturally disperse, depending on amount spilt and sea state conditions. Heavier crude oils will take longer to disperse; about 2-5 days.	***Operational Considerations*** The application of dispersant assists and accelerates the process of natural dispersion. For planned use of dispersants the onshore team should consult the regulatory authorities prior to use unless dispersants are being used where a spill poses an immediate threat to personnel. Dispersant can be deployed from the ERRV and OSR's (Tier 2/3 response contractor) aerial dispersant aircraft. • It is most effective to spray with the spray arms mounted on the vessel's bow, eliminating the effect of the bow wave pushing oil away before application. • Upper wind speed limit for spraying is 25-30 knots. Any stronger and the dispersant will be dispersed by the wind and the required mix ratio will not be attained. • If dispersant is to be used, this should be carried out within the first few hours of the spill. Dispersant may not work on spilt crude once it has been at sea for a long period of time, especially in winter. • Oil to Dispersant ratio should be 20:1 i.e. 20 tonnes of oil should be dispersed by 1 tonne of dispersant. • Ensure correct use of dispersant either neat or dilute with water. This will depend upon dispersant type (2 or 3) and type of application equipment onboard the RSV/ERRV. Vessel Master should be aware of this. • Commence treatment from edge of the slick, try and avoid cutting across slick. • Treat slick with parallel and continuous runs to cover the whole area; treat slick into the wind. • As dispersion is achieved it will produce a "smoke plume" in the water. The dispersion will vary in colour between dark and light brown. • If dispersion is not taking place large oil droplets will be evident. If this is the case ***STOP*** spraying. • If the oil is dispersing satisfactorily, the speed of the vessel may be increased by 1 knot incrementally to find the optimum speed. • ***DO NOT*** spray sheens, they will rapidly disperse naturally. ***Do not*** attempt to spray diesel, very viscous or semi-solid oils. • Observe all safety advice when using dispersants. • Keep full log of dispersant use and application times. • Monitor the effects and report observations as this may influence subsequent response efforts.

ROff 1.18. Tiered Response Resources

To be confirmed in conjunction with onshore IMT. Dispersant application is not recommended for spills of condensate or diesel.

Tiered Response Resources				
Resource	**Response Location**	**Strategy & Capability**	**Response Time**	**Mobilised by**
Tier 1 Onsite (mobilised & co-ordinated by the OIM)				
Surveillance				
FPSO	Schiehallion	FPSO & ERRV	Immediate	OIM
Dispersant Spraying (not applicable to condensate / diesel)				
Dedicated ERRV (Grampian Frontier) (Relief - Grampian Conquest)	Schiehallion / Foinaven Clair	*Grampian Frontier:* 5 tonnes of Slickgone NS. Supplied: Nov 2009 (internal storage tank). Renewal: - Nov 2019 *Grampian Conquest:* 10 tonnes of Slickgone NS. Supplied: Nov 2005, (internal storage tank). Renewal:- Nov 2015	Immediate	OIM
Tier 2 Regional & 3 National (mobilised & co-ordinated by the onshore response team)				
Aerial Surveillance				
Cessna 310 G-BODY	OSR	Fitted with remote sensing and downloading equipment.	Response time max 4 hrs to site.	BP IMT
Jigsaw Helicopter	Sumburgh (Bond 2)	Ability to map slick and estimate size. Fitted with thermal imager, radar, video & digital camera equipment.	TBC on the day	BP IMT
Dispersant Spraying (not applicable to condensate / diesel)				
ERRV	Surrounding fields	Type TBC on day.	Varied	BP IMT
Cessna 406	OSR	1.25 tonnes of Type 3 dispersant. Disperse circa 25 tonnes of oil per sortie.	Response time max 6 hrs to site.	BP IMT
L382 Hercules	OSR	15 tonnes of Type 3 dispersant. Disperse circa 340 tonnes of oil per sortie.	Response time max 9 hrs to site.	BP IMT
Containment & Recovery				
Shetland Fisherman Response	Shetland – Mainland (Brae) & Yell (Cullivoe)	Shoreline response (excluding Sullom Voe) - mobile response packages located at each site loaded with containment booms and ancillary booming support equipment.	First trailer mobilised <60 mins	BP IMT / OSR
SVT	Sullom Voe, Shetland	Equipment spread held and managed by SVT primarily for Sullom Voe response.	TBC	BP IMT
Response Equipment	OSR	Offshore booms & skimmers. Various types depending upon conditions & oil condition.	Equipment to Shetland 12-24 hours	BP IMT

ROff 1.19. Testing Dispersant Efficiency Procedure

To be undertaken by the RSV/ERRV. Dispersant application is not recommended for spills of condensate or diesel.

Step	Action
1	Test the amenability of the spilt oil to dispersants following the sampling of the slick. This should be done as quickly as possible after taking the sample. The test should be carried out as follows: - I. Fill a clean screw top jar with seawater; II. Carefully place about 25mls of spilt oil on the surface; III. Add about 1 ml of dispersant (ca. 2 drops) onto the surface; IV. Shake the jar. If the oil does not rise again to the surface but breaks up in the seawater, the slick should be amenable to dispersant spraying.
2	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 ration of 20:1 oil to dispersant.
3	Initially, spray vessel should enter the oil on surface at recommended speed and spray at a constant rate and agitate the area.
4	Watch oil for evidence of dispersion.
5	As dispersion is achieved it will produce a "smoke plume" in the water. The dispersion will vary in colour between dark and light brown.

ROff 1.20. Jigsaw Coverage of BP Assets

The West of Shetland is not covered by a Jigsaw RSV, only by SAR helicopter. However, the primary role of the Jigsaw helicopters is that of emergency response and should not be relied upon as the only means of aerial surveillance. OSR surveillance aircraft must still be mobilised in the event of a hydrocarbon spill.

A Jigsaw RSV may be in the area West of Shetland undertaking the role of cargo delivery in which case could be called upon as an available resource in the event of a hydrocarbon spill. All Jigsaw RSVs carry onboard 2 x 1000litres (2 x 1 tonne) of Super Dispersant 25.

For details of asset specific ERRV dispersant stockpiles refer to *ROff 1.18 – Tiered Response Resources*.