



Western Isles FPSO Decommissioning Programmes

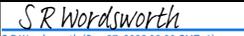
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Terms and Abbreviations

Abbreviation	Explanation
AIS	Automatic Identification Systems
CA	Comparative Assessment
CNS	Central North Sea
DFPV	Drain, flush, purge and vent
DP	Decommissioning Programme
EA	Environmental Appraisal
ENE	East North East
ENVID	Environmental Impact Identification
ESDV	Emergency Shutdown Valve
ESE	East South East
FPSO	Floating Production Storage and Offloading Vessel
HP	High Pressure
HPLT	High Pressure Low Temperature
HSE	Health & Safety Executive
ICES	International Council for the Exploration of the Sea
IHM	Inventory of Hazardous Material
IMO	International Maritime Organisation
INTOG	Innovation and Targeted Oil and Gas Schemes
JNCC	Joint Nature Conservation Committee
km	kilometre
LP	Low Pressure
LSA	Low Specific Activity
MAT	Master Application Template
MEG	Mono-Ethylene Glycol
MWA	Midwater Arch
NDC	North Drill Centre
NLB	Northern Lighthouse Board
NNS	Northern North Sea
NORM	Naturally Occurring Radioactive Material
NRB	North Riser Base

Abbreviation	Explanation
NSTA	North Sea Transition Authority
OCR	Offshore Chemical Regulations
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OSPAR	Convention for the Protection of the Marine Environment of the North-East Atlantic (Oslo Paris Convention)
P&A	Plug and Abandonment
PMF	Priority Marine Feature
PWA	Pipeline Work Authorisation
ROV	Remotely Operated Vehicle
SAC	Special Area of Conservation
SCAP	Supply Chain Action Plan
SEPA	Scottish Environment Protection Agency
SAT	Supplementary Application Template
SDC	South Drill Centre
SFF	Scottish Fishermen's Federation
SPA	Special Protection Area
SRB	South Riser Base
SSE	South South East
Te	Tonnes
TFSW	Trans Frontier Shipment of Waste
THC	Total Hydrocarbon Concentration
UKCS	United Kingdom Continental Shelf
UKHO	United Kingdom Hydrographic Office

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1. EXECUTIVE SUMMARY

1.1. Combined Decommissioning Programme

This document has been prepared by Dana Petroleum (E&P) Limited and contains two decommissioning programmes (DPs) for each set of section 29 Notices covering the floating production storage and offloading (FPSO) vessel including mooring lines and for the disconnection and recovery of the associated flexible risers and dynamic umbilicals to enable FPSO sailaway. The items included in the combined Western Isles DPs are:

1. Western Isles Section 29 Notice – Offshore Installations
 - The Sevan 400 floating production storage and offloading vessel (including the mooring lines from the FPSO up to bottom chain section)
2. Western Isles Section 29 Notice – Submarine Pipelines
 - PL3186 (Flexible Riser Only)
 - PL3729.1 (Flexible Riser Only)
 - PL3729.2 (Flexible Riser Only)
 - PL3729.3 (Flexible Riser Only)
 - PL3729.4 (Flexible Riser Only)
 - PLU3729.5 (Dynamic Umbilical Only)
 - PL3730.1 (Flexible Riser Only)
 - PL3730.2 (Flexible Riser Only)
 - PL3730.3 (Flexible Riser Only)
 - PL3730.4 (Flexible Riser Only)
 - PLU3730.5 (Dynamic Umbilical Only)

These DPs include the full removal of the FPSO, flexible risers, dynamic umbilicals and the upper sections of the mooring lines (top chain, buoyancy and polyester line) to and including the lower H-shackle, excluding the bottom chain and anchors (please refer to Figure 1-2). The remaining field infrastructure, which is listed on the Section 29 Notices, is subject to a separate combined DP being submitted separately to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED).

Preparatory activities for the midwater arch (MWA) removal are within the scope of this present DP. These preparatory activities, which will be carried out during the removal of the risers, are the sinking of the two MWAs and their gravity bases (see configuration in Appendix 2) which, subject to tender proposals, may be temporarily wet stored and removed later as part of the subsea decommissioning campaign.¹ It is intended that the removal of the items identified within this programme shall be performed in such a way as to not prejudice any further decommissioning work in the field.

1.2. Requirement for Decommissioning Programmes

1.2.1. Installations

In accordance with the Petroleum Act 1998, the Section 29 Notice Holders of the Western Isles Installations (see Table 1.2) are applying to OPRED to obtain approval for decommissioning the installations detailed in Table 1 of this programme. (See also Section 8 - Section 29 Notice Holder Letters of Support).

¹ The elements of the FPSO and subsea infrastructure scopes are shown in Table 1-7 of this document for the purposes of clarity.

1.2.2. Pipelines

In accordance with the Petroleum Act 1998, the Section 29 Notice Holders of the Western Isles pipelines (see Table 1.4) are applying to OPRED to obtain approval for decommissioning the pipelines detailed in Table 2- of this programme (see also Section 8 – Section 29 Notice Holder Letters of Support).

In conjunction with public, stakeholder and regulatory consultation, the DPs are submitted in compliance with national and international regulations and OPRED guidelines. The schedule outlined in this document is for a five-year project (from Define to post-decommissioning surveys), see Section 6.3 for more detail.

1.3. Introduction

The Western Isles FPSO produces from the Harris and Barra fields. The fields are located in the UKCS, Block 210/24a situated 93 km to the North East of Shetland and 12 km west of the Tern platform (as the crow flies) which is the nearest fixed facility. The water depth of field varies from approximately 150m to 165m.

The fields have been developed using a floating production, storage and offloading (FPSO) facility. Oil is exported by shuttle tanker and excess produced gas is exported through a dedicated pipeline to the Tern-North Cormorant gas pipeline. Later in the field life due to a reduction of produced gas, gas has been continuously imported to balance the fuel gas deficit. The subsea facilities are tied back to the floating production facility by two subsea pipeline bundles and flexible risers. Water injection is required to maintain the reservoir pressure and gas lift is also required to assist production. Due to the nature of the reservoir, the production and injection wells are clustered around two drill centres: the North Drill Centre (NDC) and the South Drill Centre (SDC). Refer to Figure 1-2 for schematic layout of the facilities.

The FPSO is not required to perform any further decommissioning related activities on the subsea infrastructure after completion of the decommissioning activities detailed in section 1.1, and it is proposed that the vessel is removed thereafter from its current location.

Following public, stakeholder and regulatory consultation, this combined DP is submitted without derogation and in full compliance with OPRED guidelines.

It should be noted that an Environmental Appraisal (EA) shall support the combined DP for the remaining subsea infrastructure following FPSO sailaway. Environmental impacts associated with the work in this DP have been assessed and detailed in Section 4 of this document.

1.4. Overview of Installation/Pipelines Being Decommissioned

1.4.1. Installation

Table 1-1 Installation Being Decommissioned (Western Isles FPSO)			
Fields	Harris Barra	Production Type (Oil/Gas/Condensate)	Oil & Gas
Water Depth (m)	150m to 165m	UKCS block	210/24a
Distance to median (km)	58	Distance from nearest UK coastline (km)	93
Surface Installation			
Number	Type	FPSO/Vessel Weight (Te)	Mooring System Weight (Te)
1	FPSO	29,284 (Lightweight, Gross Dry Weight)	2,385.2 ²
Mooring Lines			
Number		Type	
12 (3 groups of 4 lines)		Mooring Lines	

Table 1-2 Installations Section 29 Notice Holders Details		
Section 29 Notice Holders	Registration Number	Equity Interest (%)
Dana Petroleum (E&P) Limited	02294746	76.9188%
Dana Petroleum Limited	03456891	0%
Itochu Corporation	JP7120001077358	0%
NEO Energy (UKCS) Limited	02669936	23.0812%
NEO Energy Group Limited	SC470677	0%
NEO Energy Upstream UK Limited	SC279865	0%

² 2385.2 Te is the total weight for the sections of the mooring lines being removed in this DP comprising the upper section of mooring lines (top chain, buoyancy and polyester line) to and including the lower H-shackle; this is also shown in Figure 1-2.

1.4.2. Pipelines

Table 1-3 Pipelines Being Decommissioned	
Number and total length (km) of Pipelines Full details given in Table 2.2	11 pipelines with 5.809km total length Note: this includes only the flexible risers and dynamic umbilicals accounted for under the total pipeline length stated

Table 1-4 Pipelines Section 29 Notice Holders Details		
Section 29 Notice Holders	Registration Number	Equity Interest (%)
Dana Petroleum (E&P) Limited	02294746	76.9188%
Dana Petroleum Limited	03456891	0%
Itochu Corporation	JP7120001077358	0%
NEO Energy (UKCS) Limited	02669936	23.0812%
NEO Energy Group Limited	SC470677	0%
NEO Energy Upstream UK Limited	SC279865	0%

1.5. Summary of Proposed Decommissioning Programmes

Table 1-5 Summary of Decommissioning Programmes	
Proposed Decommissioning Solution	Reason for Selection
1. Surface Installation (FPSO)	
<p>Full Removal - The FPSO will be disconnected from its mooring system and risers. Following disconnection, the FPSO will be towed to shore for potential reuse, subject to evaluation of reuse options. The FPSO, if not reused, will be recycled or disposed of, whether in the UK or elsewhere in compliance with the standards set under the applicable laws of the United Kingdom or any other jurisdiction in which the FPSO vessel is to be recycled or disposed of. Once a reuse option is identified OPRED will be advised as part of the post-decommissioning approval process reporting regime. Should no reuse option be identified OPRED will be advised on the fate of the vessel.</p> <p>Any applications and permits required for work associated with removal of the vessel will be submitted.</p>	<p>The FPSO is suitable for reuse and is not needed for decommissioning activities within the field so it will be removed from station.</p>

2. Mooring Lines	
<p>Full Removal – Mooring lines will be recovered for reuse and recycling, in compliance with regulatory requirements - The upper sections of FPSO mooring lines up to and including the lower H-shackle will be lowered to the seabed and recovered during the FPSO sailaway campaign, the lower section of the chain connecting to the anchor piles is out with the scope of this DP and will be recovered at a later date and is included within a separate DP. Any applications and permits required for work associated with disconnection and removal of the upper sections of the mooring lines will be submitted.</p>	<p>Removes a potential obstruction to fishing operations and maximises reuse and recycling of materials.</p>
3. Risers & Umbilicals	
<p>Full Removal – The flexible risers and dynamic umbilicals will be disconnected subsea and at the FPSO and recovered by vessel for transport ashore for reuse, recycling or disposal.</p> <p>If recovery is not feasible at time of FPSO sailaway the risers and dynamic umbilicals may be temporarily wet stored for recovery at a later date. In this instance a guard vessel will remain on location after sailaway to mitigate hazards for other users of the sea.</p> <p>Investigations into potential reuse options are ongoing.</p>	<p>Leaves clear seabed and water column and to satisfy the regulatory requirement.</p>
4. Interdependencies	
<p>There is no anticipated impact on third-party assets or pipelines.</p> <p>This DP covers the FPSO sailaway and the disconnection and recovery of the upper section of its mooring lines. This DP also covers the disconnection and recovery of the flexible risers and dynamic umbilicals. Following riser recovery it is proposed that the MWAs will be sunk and temporarily wet stored in place (adjacent to their respective gravity bases, see schematics at Appendix 2) awaiting recovery or fully recovered intact as part of the subsea pipelines decommissioning campaign. The Western Isles subsea infrastructure (including MWAs) shall not be decommissioned as part of the FPSO sailaway campaign and is covered by a separate DP.</p> <p>Once the FPSO vessel has been removed, the MWAs (previously falling under the protection of the FPSO 500m zone) and mooring piles (bottom chain and anchors) and other pipelines related infrastructure (outside the FPSO 500m zone) will require appropriate safety measures to protect them to ensure they pose no threat to other users of the sea prior to their decommissioning sometime in the future.</p> <p>Well integrity issues will be covered in a Well Integrity Report and any issues risk-assessed. Given sailaway of the FPSO will occur prior to well P&A, well integrity testing (i.e. well down hole safety valves and XT valves within the production and annulus flow-paths) will be conducted prior to disconnection of the FPSO. Thereafter monitoring will be conducted through ROV inspections (most likely annual General Visual Inspections) throughout well suspension phase, prior to the commencement of the wells P&A operations (most likely in 2026, potentially in 2025).</p> <p>It is acknowledged that navigational aids and/or a guard vessel will be required to mitigate hazards for other users of the sea in instances where the 500m safety zone is no longer in place and/or potential navigational hazards remain. Detailed removals plans have not yet been established; however Dana shall ensure that Admiralty Charts and Notices to Mariners are updated, and engagement is maintained with the Health and Safety Executive (HSE) and Northern Lighthouse Board (NLB) to ensure appropriate mitigation measures are agreed and put in place.</p>	

1.6. Field Location Including Field Layout and Adjacent Facilities

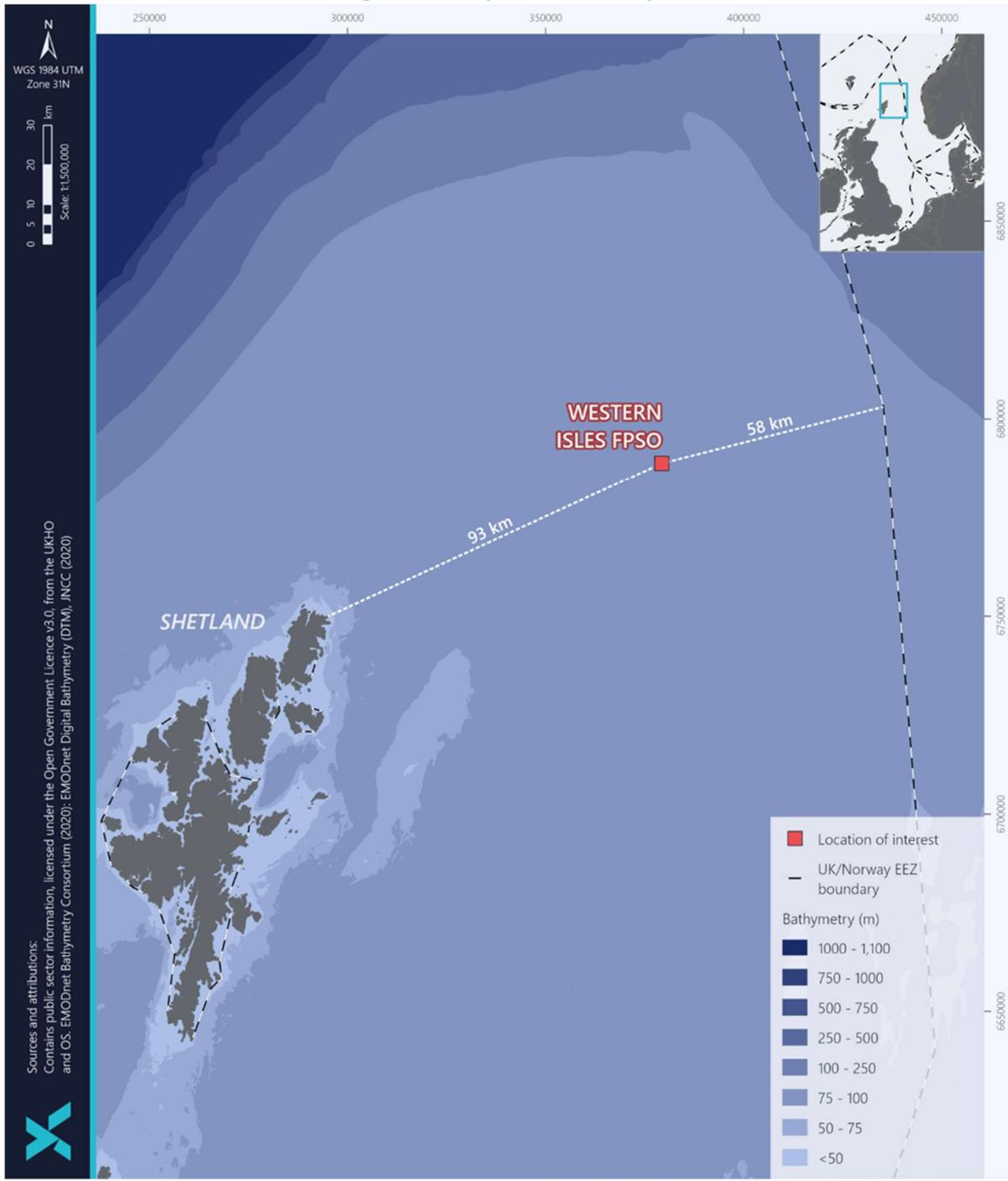


Figure 1-1 Field Location in UKCS

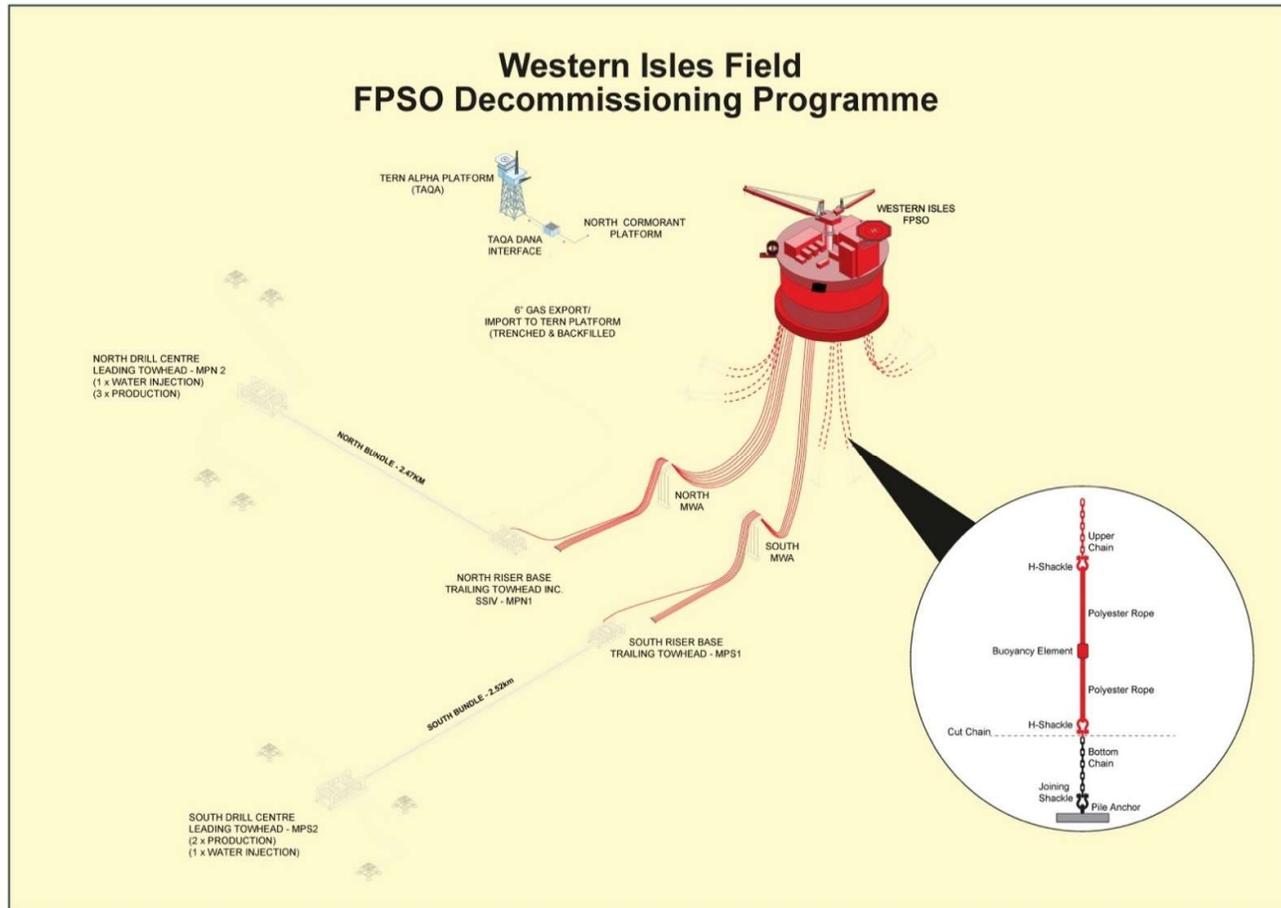


Figure 1-2 Field Layout – Red denotes equipment within this DP

Table 1-6 Adjacent Facilities					
Owner	Name	Type	Distance/ Direction	Information	Status
TAQA Bratani Limited	Tern	Platform	12 km/ENE	Third Party Asset	Operational
TAQA Bratani Limited	Cormorant A	Platform	21.1 km/ESE	Third Party Asset	Operational
TAQA Bratani Limited	Cormorant North	Platform	21.4 km/ENE	Third Party Asset	Operational
TAQA Bratani Limited	Eider A	Platform	26.9 km/ENE	Third Party Asset	Operational
EnQuest Heather	Heather A	Platform	30.8 km/SSE	Third Party Asset	Operational
Fairfield	Dunlin A	Platform	45.7 km/ENE	Third Party Asset	Non-operational
EnQuest Heather	Thistle A	Platform	47.2 km/ENE	Third Party Asset	Operational
CNR International	Ninian Northern	Platform	49.8 km/ESE	Third Party Asset	Non-Operational
Impacts of Decommissioning Proposals					
<p>There is no direct impact on third party adjacent facilities as a result of the activities listed within this DP.</p> <p>Note that decommissioning of the subsea infrastructure for the Western Isles (Harris and Barra) fields is covered in a separate DP. The various elements of the latter are detailed below in Table 1-7 alongside the FPSO scope covered within this present document.</p>					

Table 1-7 Summary of FPSO and Subsea Decommissioning Programmes

CA Group	Title	Proposed Decommissioning Solution	Associated Decommissioning Programme	In / Out of Scope of EA Status
1	FPSO	Full removal	FPSO	Out
2	Mooring Lines (Upper Section)	Full removal	FPSO	Out
3	Mid-water Arches	Full removal	Subsea	In
4	Dynamic Flexible Risers	Full removal	FPSO	Out
5	Dynamic Umbilicals	Full removal	FPSO	Out
6	Bundles	Decommission <i>in situ</i>	Subsea	In
7	Rigid Pipelines (Trenched and Backfilled)	Decommission <i>in situ</i>	Subsea	In
8	Spools	Full removal	Subsea	In
9	Jumpers	Full removal	Subsea	In
10	Structures	Full removal	Subsea	In
11	Protection Materials	Full removal	Subsea	In
12	Mooring Lines (Lower Chain & Anchor Piles)	Full removal	Subsea	In

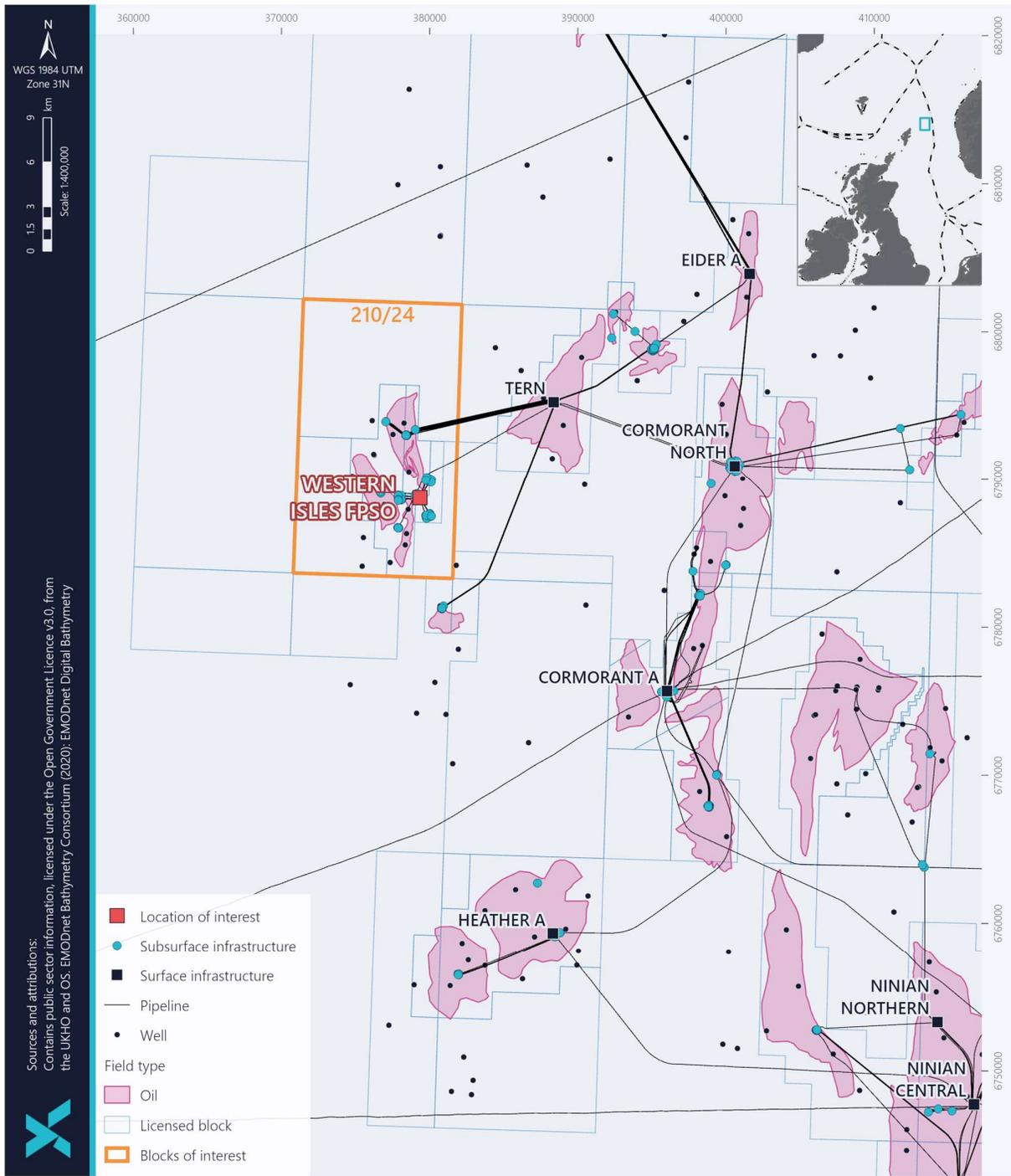


Figure 1-3 Adjacent Facilities



1.7. Industrial Implications

It is Dana's intention to develop a contract strategy that will result in an efficient and cost-effective execution of the decommissioning works. Details of decommissioning project opportunities will be published to alert potential contractors to competitive tender opportunities, together with direct invitations to relevant parties. Dana are already in discussion with the North Sea Transition Authority (NSTA) regarding Supply Chain Action Plan (SCAP) requirements.

It may be appropriate to use existing framework agreements to enable FPSO sailaway. However, this will be reviewed in the context of the wider Western Isles decommissioning project to achieve synergies with the subsea activities. Collaborations with other operators will also be explored in order to reduce vessel mobilisation costs.

2. DESCRIPTION OF ITEMS TO BE DECOMMISSIONED

2.1. Installations: Surface Facilities – FPSO

Table 2-1 Surface Facilities Information						
Name	Facility Type	Location		Topsides/ Facilities	Mooring System	
				Weight (Te)	Weight (Te)	Number of mooring lines
Western Isles	FPSO	WGS84 Decimal	0.753632 61.214486	29,284 (Lightweight, Gross Dry Weight)	Total weight is 2,385.2 Te (198.7 Te per mooring line) Section weight per mooring line: <ul style="list-style-type: none"> • 18.8 Te (lower polyester) • 51.0 Te (Buoyancy element c/w links) • 32.8 Te (upper polyester) • 91.0 Te (upper chain) • 2.5 Te (each H-shackle, 2 off) 	12 mooring lines (3 groups of 4 lines): <ul style="list-style-type: none"> • Lower length polyester 400m x 260mm Dia. • Upper length polyester 700m x 260mm Dia. • Top chain length 180m x 159mm Dia.
		WGS84 Decimal Minute	0° 45' 19.435" 61° 12' 53.993"			

2.2. Pipelines Including Stabilisation Features

Table 2-2 Risers and Umbilicals to be Removed as Part of FPSO Sailaway									
Description	Pipeline Number (as per PWA)	Diameter (inches)	Length (km)	Description of Component Parts	Product Conveyed	From – To End Points	Burial Status	Pipeline Status	Current Content
Gas Import / Export Flexible Riser	PL3186	6	0.504	Flexible	Gas	Western Isles FPSO ESDV to 6" Gas Import / Export Flexible Riser Flange	Initially surface laid then in suspension over MWA to FPSO	Operational	Import gas
Production Flexible Riser	PL3729.1	8	0.501	Flexible	Oil	8" Production Flexible Riser Flange to Western Isles FPSO ESDV	Initially surface laid then in suspension over MWA to FPSO	Operational	Production fluid
Production Flexible Riser	PL3729.2	8	0.502	Flexible	Oil	8" Production Flexible Riser Flange to Western Isles FPSO ESDV	Initially surface laid then in suspension over MWA to FPSO	Operational	Production fluid
Water Injection Flexible Riser	PL3729.3	8	0.503	Flexible	Water	Western Isles FPSO ESDV to 8" Water Injection Flexible Riser Flange	Initially surface laid then in suspension over MWA to FPSO	Operational	Injection water

Table 2-2 Risers and Umbilicals to be Removed as Part of FPSO Sailaway

Description	Pipeline Number (as per PWA)	Diameter (inches)	Length (km)	Description of Component Parts	Product Conveyed	From – To End Points	Burial Status	Pipeline Status	Current Content
Gas Lift Flexible Riser	PL3729.4	6	0.503	Flexible	Gas	Western Isles FPSO ESDV to 6" Gas Lift Flexible Riser	Initially surface laid then in suspension over MWA to FPSO	Operational	Lift gas
Dynamic Umbilical	PLU3729.5	9	0.564	Dynamic	Control systems	Western Isles FPSO to NRB Trailing Towhead	Initially surface laid then in suspension over MWA to FPSO	Operational	Pelagic (hydraulic control fluid), Pelagic (hydraulic control fluid), Scale inhibitor, Corrosion inhibitor, Wax inhibitor, Biocide, 50:50 MEG/water, Methanol, 50:50 MEG/water, Electrical Power/Signal Cables
Production Flexible Riser	PL3730.1	8	0.530	Flexible	Oil	8" Production Flexible Riser Flange to Western Isles FPSO ESDV	Initially surface laid then in suspension over MWA to FPSO	Operational	Production fluid

Table 2-2 Risers and Umbilicals to be Removed as Part of FPSO Sailaway

Description	Pipeline Number (as per PWA)	Diameter (inches)	Length (km)	Description of Component Parts	Product Conveyed	From – To End Points	Burial Status	Pipeline Status	Current Content
Production Flexible Riser	PL3730.2	8	0.530	Flexible	Oil	8" Production Flexible Riser Flange to Western Isles FPSO ESDV	Initially surface laid then in suspension over MWA to FPSO	Operational	Production fluid
Water Injection Flexible Riser	PL3730.3	8	0.530	Flexible	Water	Western Isles FPSO ESDV to 8" Water Injection Flexible Riser Flange	Initially surface laid then in suspension over MWA to FPSO	Operational	Injection water
Gas Lift Flexible Riser	PL3730.4	10	0.530	Flexible	Gas	Western Isles FPSO ESDV to 6" Gas Lift Flexible Riser	Initially surface laid then in suspension over MWA to FPSO	Operational	Lift gas

Table 2-2 Risers and Umbilicals to be Removed as Part of FPSO Sailaway

Description	Pipeline Number (as per PWA)	Diameter (inches)	Length (km)	Description of Component Parts	Product Conveyed	From – To End Points	Burial Status	Pipeline Status	Current Content
Dynamic Umbilical	PLU3730.5	9	0.612	Dynamic	Control systems	Western Isles FPSO to SRB Trailing Towhead	Initially surface laid then in suspension over MWA to FPSO	Operational	Pelagic (hydraulic control fluid), Pelagic (hydraulic control fluid), Scale inhibitor, Corrosion inhibitor, Wax inhibitor, Biocide, 50:50 MEG/wate, Methanol, 50:50 MEG/water, Electrical Power/Signal Cables

2.3. Inventory Estimates

The following diagrams indicate the percentage composition of the FPSO and associated subsea infrastructure that will be decommissioned.

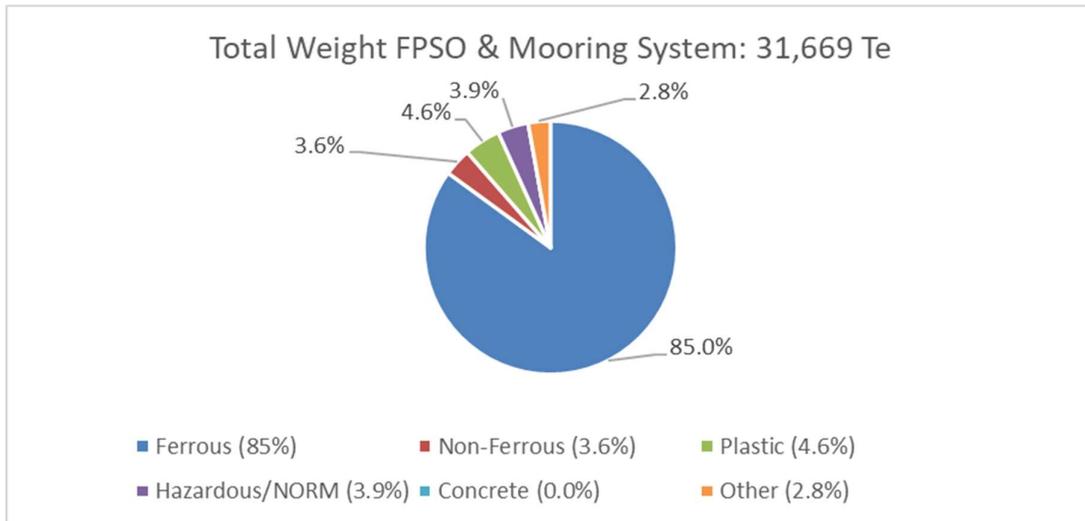


Figure 2-1 Pie Chart of Estimated Inventories (FPSO and Mooring System)

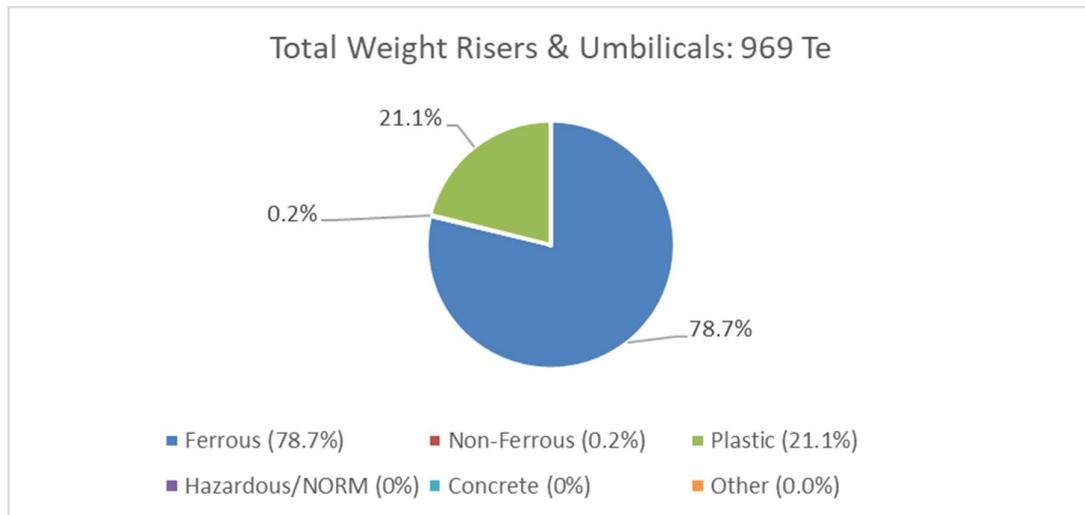


Figure 2-2 Pie Chart of Estimated Inventory (Risers and Umbilicals)

3. REMOVAL AND DISPOSAL METHODS

Decommissioning of the Western Isles FPSO, flexible risers, dynamic umbilicals and mooring lines will generate a quantity of waste. Dana is committed to establishing and maintaining environmentally acceptable methods for managing wastes in line with the Waste Framework Directive and principles of the waste hierarchy.

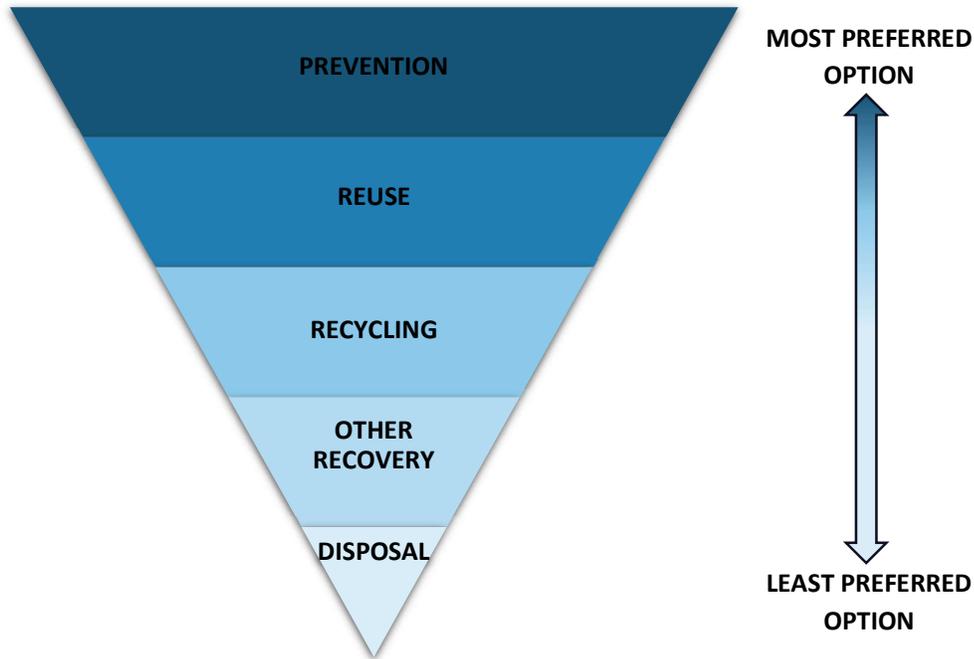


Figure 3-1 Waste Hierarchy

In line with the waste hierarchy, Dana are investigating potential reuse options for the Western Isles FPSO, flexible risers and dynamic umbilicals.

Where no reuse options exist, recovered infrastructure will be returned to shore and transferred to a suitably licensed waste treatment facility. It is expected that the recovered infrastructure, i.e. risers and umbilicals, will be cleaned before being reused / recycled. OPRED will be advised once a removal method is defined and once a disposal yard is selected.

An appropriately licensed disposal company and yard will be identified through a selection process that will ensure that the chosen facility demonstrates a proven track record of waste stream management throughout the deconstruction process, the ability to deliver innovative reuse / recycling options, and ensure the aims of the waste hierarchy are achieved.

Geographic locations of potential disposal yard options may require the consideration of Trans Frontier Shipment of Waste (TFSW), including hazardous materials. Early engagement with the regulatory authorities will ensure that any issues with TFSW are addressed. Once an appropriately licensed waste contractor has been selected OPRED and SEPA will be informed.

3.1. Surface Facilities – FPSO

3.1.1. FPSO Decommissioning Overview

The Western Isles FPSO has a design life of 20 years when installed at the field and is capable of staying on station for the full design life of the FPSO.

After completion of the operation of the Western Isles FPSO at its current site, the FPSO is to be reused, subject to evaluation of reuse options. If a reuse option is not identified the FPSO shall be recycled/disposed of at appropriate facilities; should this happen OPRED will be advised on the fate of the vessel.

3.1.2. FPSO Description

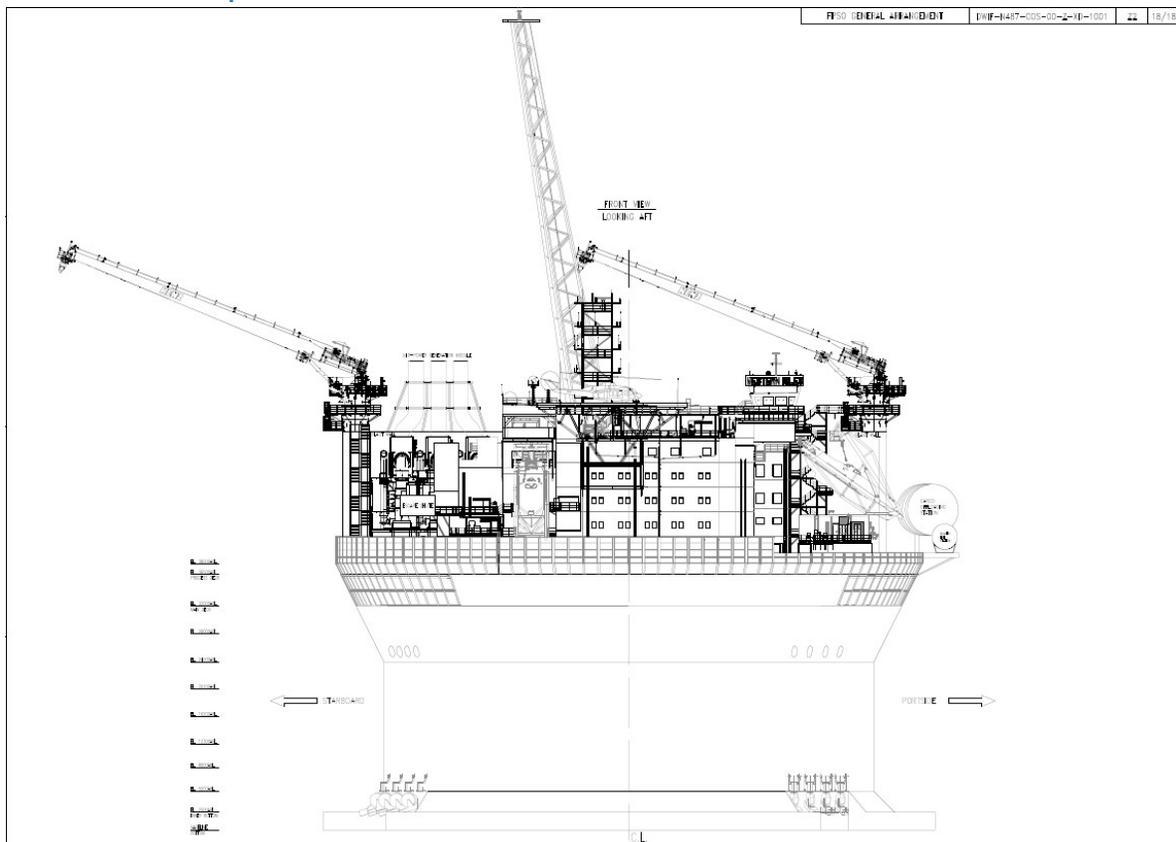


Figure 3-2 Diagram of FPSO

3.1.3. Preparation/Cleaning

The Western Isles FPSO hull is compartmentalised into ballast tanks, cargo tanks, clean and dirty slops tanks and various other utility systems including open drains, diesel and potable water.

Prior to FPSO mooring disconnection all hydrocarbon bearing tanks will be pumped out, flushed, purged and vented as far as reasonably practicable.

It is expected that on completion of the drain, flush, purge and vent (DFPV) process and fluid reinjection there will be a small volume of residual fluids left in the slops tanks. This will mainly consist of residual flushing fluids (primarily seawater), and rainwater run-off from the open drains systems.

All other in deck tanks shall be DFPV as far as practicable including hazardous and non-hazardous open drains that will likely hold residual run off and rain water.

The methods that will be used to vent and purge the FPSO prior to removal to shore are summarised in Table 3.1.

Note: Valves located on the North and South leading towheads provide isolation barriers between the wells and the Western Isles FPSO. In addition, the rigid tie-in spools (Production, Gas Lift and Water Injection) between the wells and the towhead will be disconnected followed by fitting blind flanges to the tie-in points on the Xmas Trees. Upon completion of blind flange fitting, reservoir pressure source will be fully isolated and there will be no connection between the wells and the Western Isles FPSO.

Table 3-1 Cleaning of FPSO for Removal		
Waste Type	Composition of Waste	Disposal Route
Onboard liquid hydrocarbons	Process fluids, fuels and lubricants	<p>On-board hydrocarbons will be offloaded by shuttle tanker after cessation of production.</p> <p>Remaining hydrocarbons and flushing fluids will be injected into a donor well(s) using a temporary pumping spread.</p> <p>Risers and flowlines will be pigged/flushed using biocide-treated seawater to achieve cleanliness criteria (<30ppm OIW) with fluids routed for reinjection where applicable. Solids produced from pigging activities will be backloaded in authorised containers for onshore recycling/disposal.</p> <p>In-spec seawater and produced water will be discharged overboard via authorised discharge route.</p> <p>Chemical lines and umbilicals will be flushed back into the production train for reinjection down a donor well (or wells)</p> <p>Lubricants, solvents and chemicals will be backloaded for re-use, recycling or disposal.</p> <p>All activities will all be carried out under the appropriate permits.</p> <p>All subsea equipment will be left disconnected & flooded with treated seawater. Topsides equipment will be drained to ALARP.</p>

Onboard Gas Hydrocarbons (172 Tonnes CO ₂ estimated inventory)	Formation and import gas. Locally generated nitrogen and inert gas	<p>The gas export pipeline from Tern will be blown down to an ignited flare including the depressurisation of the topsides inventory and production/gas lift risers.</p> <p>The Cargo tanks will be inerted using the fixed inert gas generation system with residual hydrocarbons cold vented via the marine primary vent header.</p> <p>The topsides plant will be nitrogen purged with the product being vented via the respective HP/LP/HPLT flare systems.</p>
Other hazardous materials	NORM, LSA Scale, any radioactive material, instruments containing heavy metals, batteries	<p>Identified loose materials/equipment will be transported ashore for reuse/disposal by appropriate methods in line with the appropriate permits.</p> <p>Fixed equipment will remain <i>in situ</i> whilst maintaining compliance with regulatory requirements.</p>

3.1.4. Removal Methods

Table 3-2 FPSO Removal Methods	
Method	Description
Reverse Install/Sailaway	<p>Mooring line lower section (bottom chain section) shall be cut below the H-shackle, leaving anchors in place (the anchors discussed in the Western Isles subsea infrastructure decommissioning programmes, which is subject to comparative assessment).</p> <p>The flexible risers and dynamic umbilicals shall be disconnected subsea and at the FPSO and recovered for transport to shore. Methods for removal will be confirmed following contractor tender evaluations and will be engineered as part of the Execution planning. Cutting is a contingency option only. Should cutting be required, industry tools are known to be available for this.</p> <p>Nevertheless, it is expected that the flexible risers and dynamic umbilicals will be recovered to the surface as soon as practicable after FPSO sailaway (allowing for weather and vessel availability. There is currently no plan for the use of divers as part of this operation. If recovery is not feasible at time of FPSO sailaway the risers and dynamic umbilicals may be temporarily wet stored for recovery at a later date. In this case a guard vessel would remain on location after sailaway to mitigate hazards for other users of the sea. Note that the risers and umbilicals are already tagged with the relevant ident numbers for identification. Further identification tags can be applied as defined or required during detailed engineering.</p> <p>The FPSO will be towed to port for cleaning and, or refurbishment before being reused, or towed to an alternative location at a licensed facility to be decommissioned.</p> <p>Reuse opportunities are actively being reviewed and are ongoing. OPRED will be advised when any decisions regarding reuse are made.</p>

3.2. Mooring Lines

The mooring system consists of 12 mooring lines (3 groups of 4 lines). The horizontal projection of the mooring lines is presented in the figure below.

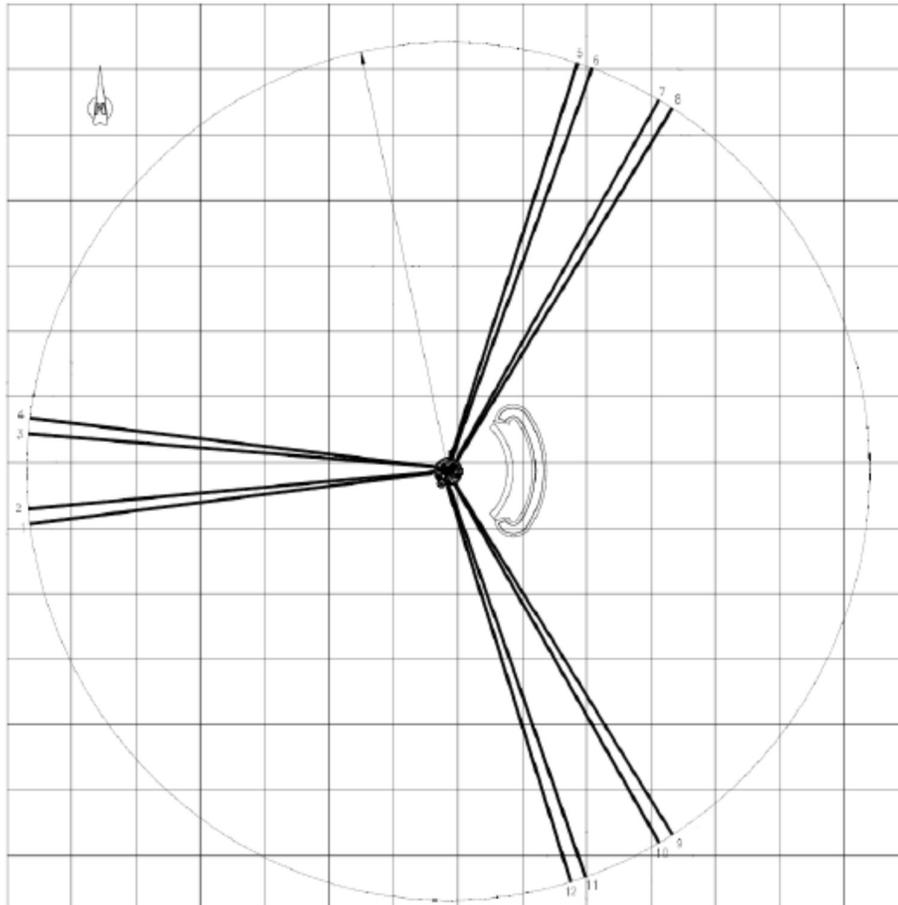


Figure 3-3 Mooring Layout

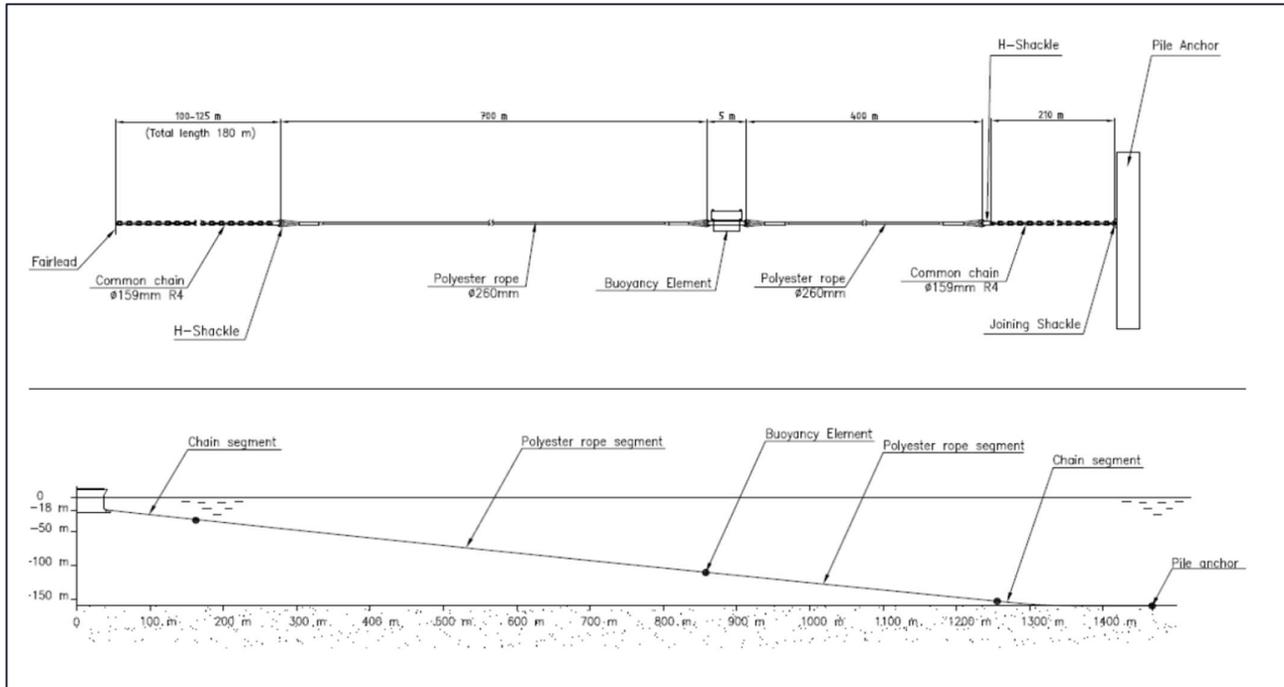


Figure 3-4 Mooring Line Arrangement

Table 3-3 Mooring Lines Decommissioning Options

Mooring System	Number	Option	Disposal Route (if applicable)
FPSO mooring lines	12	<p>The base case for mooring disconnect and recovery does not involve cutting of the mooring. The top chain, fibre rope sections and buoyancy modules will be recovered by breaking the connecting links. Cutting of the bottom chain (under the separate subsea infrastructure DP) is anticipated to be undertaken using an ROV deployed saw. The location of this cut will be at approximately 16m from the pile anchor. It is planned that the remaining chain section will be 'dropped' into the top of the pile anchor following removal of the top 3m.</p> <p>The mooring lines (excluding bottom chain and anchor piles) will be lowered to the seabed during FPSO disconnection. Recovery of the lines is planned following departure of the FPSO from location. No cutting is planned.</p>	Return to shore for reuse, recycling, or disposal

3.3. Risers and Umbilicals

The scope of this DP includes the flexible risers and dynamic umbilicals between the towheads and the Western Isles FPSO. All the risers and umbilicals shall be fully removed consistent with 10.18 in the “Decommissioning of Offshore Oil and Gas Installations and Pipelines Guidance Notes, November 2018”.

The risers and associated pipelines will be flushed and cleaned using biocide-treated seawater prior to disconnection activities taking place to achieve cleanliness criteria (<30ppm OIW) with fluids routed for reinjection where applicable. Solids produced from pigging activities will be backloaded in authorised containers for onshore recycling/disposal. Any residual fluids from within the risers will be discharged under permit during the recovery operations. Where necessary further cleaning and decontamination will take place onshore prior to recycling/reuse.

3.3.1. Comparative Assessment

A Comparative Assessment (CA) has not been carried out for the flexible risers and dynamic umbilicals covered by this DP as the lines are suspended in the water column and are planned to be fully recovered following their disconnection from the towhead and FPSO. Although detailed engineering for their recovery has not yet been performed the risers and umbilicals will be recovered to a vessel for transport ashore.

3.4. Waste Streams

Table 3-4 Waste Stream Management Methods	
Waste Stream	Removal and Disposal method
Bulk liquids	On-board hydrocarbons will be offloaded by shuttle tanker. Remaining hydrocarbons and wash fluids including riser & umbilical contents will be injected into a donor well. Should this approach be unsuccessful, on-board hydrocarbons will be transported ashore for reuse/disposal. Further cleaning and decontamination will take place onshore prior to reuse.
Marine growth	Marine growth on the FPSO and risers/dynamic umbilicals is expected to dry out and detach during recovery/sailaway. As part of infrastructure disposal or refurbishment operations remaining marine growth will be removed and disposed of in accordance with the regulations. Annual ROV inspection has shown no significant marine growth is present.
NORM/LSA Scale	NORM may be partially removed offshore under appropriate permit.
Asbestos	No asbestos is expected in or on the FPSO due to its recent construction.
Other hazardous wastes	Will be recovered to shore and disposed of under appropriate permit.
Onshore Dismantling sites	Appropriate licensed sites will be selected. Facility chosen by removal contractor must demonstrate proven disposal track record and waste stream management throughout the deconstruction process and demonstrate their ability to deliver innovative recycling options.

Table 3-5 Inventory Disposition (tonnes)			
	Total Inventory Tonnage	Planned tonnage to shore	Planned left <i>in situ</i>
Installations	31,669	31,669	0
Pipelines	969	969	0

4. ENVIRONMENTAL APPRAISAL OVERVIEW

There will be some planned and unplanned environmental impacts arising from the sailaway of the Western Isles FPSO. Dana has undertaken an ENVID in line with the Decommissioning Guidance Notes regarding the activities described within this DP.

Long term environmental impacts from the decommissioning operations are expected to be low. Incremental cumulative impacts and trans-boundary effects associated with the planned decommissioning operations are also expected to be low.

Dana understands the importance of minimising the potential for environmental impact during decommissioning, in parallel with safety and technical feasibility requirements. To this end, environmental impacts will be fully considered in the design of arrangements for the disconnection and sailaway of the FPSO. Where necessary, additional measures will be developed in order to limit the extent of any potential impact.

All operations described in this DP will be subject to all the relevant environmental permits and approvals. All permit applications and reporting will be managed through a Permits, Licences, Authorisations, Notifications and Consents (PLANC) register.

The ENVID did not identify any activities required to undertake the removal of the Western Isles FPSO that would be considered to have a significant environmental Impact. As a result a standalone EA has not been considered necessary to support these decommissioning activities.

4.1. Environmental Sensitivities

Table 4-1 Environmental Sensitivities	
Environmental Receptor	Main Features
Conservation interests	<p>The Western Isles (Harris & Barra) Fields are located approximately 62 km from the nearest conservation site – the Pobie Bank Reef Special Area of Conservation which is designated for the presence of Annex I habitat Reefs. Pobie Bank’s stony and bedrock reef provides a habitat to an extensive community of encrusting and robust sponges and bryozoans, which are found throughout the site. In the shallowest areas the bedrock and boulders also support encrusting coralline algae.</p> <p>All other conservation sites are located over 90 km from the project area. The closest coastal designated site is the Hermaness, Saxa Vord and Valla Field Special Protection Area (approximately 93 km from the Western Isles (Harris & Barra) Fields).</p> <p>Seabed survey imagery did not identify any evidence of Annex I habitats. Only a single ocean quahog (<i>Arctica islandica</i>) was found in the 2012 survey (Gardline, 2012) and none were identified since, including in the 2022 pre-decommissioning Environmental Baseline Survey. There was no other evidence of OSPAR threatened and/or declining species or any UK Biodiversity Action Plan (UKBAP) species in the project area.</p>

Table 4-1 Environmental Sensitivities

Environmental Receptor	Main Features
Seabed	<p>Four habitats were identified within the 2022 survey area and described as the EUNIS level 3 habitat types ‘Atlantic offshore circalittoral coarse sediment’ (MD32), ‘Atlantic offshore circalittoral mixed sediment’ (MD42), ‘Atlantic offshore circalittoral sand’ (MD52) and ‘Atlantic offshore circalittoral mud’ (MD62).</p> <p>Burrows were observed in sufficient density to comprise the OSPAR listed Threatened and/or Declining Species and Habitat ‘Sea pens and burrowing megafaunal communities’ on two transects.</p> <p>There are occasional patches of sediment classed as habitat Features of Conservation Interest (FOCI), including ‘subtidal sands and gravels’.</p> <p>There was no indication from the 2010, 2012 or 2022 surveys of the presence of any Annex I habitats along either of the survey corridors within the in-field area, along the two in-field routes, or along the pipeline route between the FPSO and Tern.</p> <p>The 2022 survey identified that polychaetes were the dominant infaunal species group in the surveyed area, making up 69% of all individuals and 53% of all recorded taxa. Overall, the high number of taxa present at low abundances suggests that the survey area was undisturbed and with limited evidence of localised and low-level contamination from drilling.</p>
Fish	<p>The fields are located in an area of high nursery intensity for blue whiting <i>Micromesistius poutassou</i>. Anglerfish (Monkfish) <i>Lophius piscatorius</i>, European hake <i>Merluccius merluccius</i>, haddock <i>Melanogrammus aeglefinus</i>, herring <i>Clupea harengus</i>, ling <i>Molva molva</i>, mackerel <i>Scomber scombrus</i>, Norway pout <i>Trisopterus esmarkii</i>, spurdog <i>Squalus acanthias</i> and whiting <i>Merlangius merlangus</i> all use the area as nursery grounds (Coull <i>et al.</i>, 1998; Ellis <i>et al.</i>, 2012).</p> <p>Haddock, Norway pout, saithe <i>Pollachius virens</i> and whiting use the area as grounds for spawning, with spawning efforts for these species being concentrated in the first half of the year (between January and June).</p> <p>Of the species which are known to occur in the area in some capacity, a number are species of conservation concern. Anglerfish (Monkfish), blue whiting, herring, ling, mackerel, Norway pout, saithe and whiting are all Scottish Priority Marine Features (PMFs). Additionally, spurdog is an OSPAR listed Threatened and/or Declining Species.</p>

Table 4-1 Environmental Sensitivities

Environmental Receptor	Main Features
Fisheries	<p>The project area is located in ICES Rectangle 51F0 which is targeted primarily for demersal species. In 2021 (most recent data), the demersal catch live weight was 911 Te with a corresponding value of approximately £1.7 million. This accounts for approximately 67% of landings and approximately 84% of value for the year. 2021 saw a return of pelagic landings from ICES Rectangle 51F0, albeit with a relatively modest catch live weight of 454 Te and a corresponding value of approximately £0.3 million. This accounts for approximately 33% of landings and approximately 16% of value for the year. Rectangle 51F0 contributed approximately 0.25% of landings and 0.3% of value when compared to overall UKCS in 2021. It should be noted that this is significantly lower than ICES rectangles that are regularly targeted by pelagic fisheries.</p> <p>Overall, fishing effort in this ICES area is relatively low, although there is a recent trend showing increased effort; in 2021 there were 218 fishing days compared to 131 days in 2017. Historically, effort was mostly concentrated in the summer months and in November and December. However, as of 2021, fishing occurred in all months except for December. Fishing intensity along the PL3186 pipeline is also low, reaching a maximum of 150 hours (total), attributed to fishing vessels passing over the pipeline during transiting periods.</p>
Marine Mammals	<p>Harbour porpoise (<i>Phocoena phocoena</i>) are frequently found throughout UK waters. They typically occur in groups of one to three individuals in shallow waters, although they have been sighted in larger groups and in deep waters. They are present in UK waters throughout the year and are most likely to be observed in the Western Isles fields in the summer months (Reid <i>et al.</i>, 2003). The density of harbour porpoise in the project area is estimated to be 0.402 animals/km² (Hammond <i>et al.</i>, 2021). Harbour porpoise is an Annex II listed species and European Protected Species.</p> <p>Minke whales (<i>Balaenoptera acutorostrata</i>) occur in water depths of 200 m or less throughout the NNS and Central North Sea. They are usually sighted in pairs or in solitude; however, groups of up to 15 individuals can be sighted feeding. It appears that animals return to the same seasonal feeding grounds (Reid <i>et al.</i>, 2003). Minke whales are most likely to be observed in the project area in the summer months and in low numbers. Their density is predicted to be 0.0316 animals/km² which is the highest across all areas surveyed (Hammond <i>et al.</i>, 2021). Minke whale are also listed as a UK Biodiversity Action Plan (BAP) species.</p> <p>While Atlantic white-sided dolphin are likely to be seen in the project area, this is only likely during July, although in high numbers at this time. The density of Atlantic white-sided dolphins in the project area is estimated to be 0.003 animals/km².</p> <p>No other cetacean species are likely to be present in the project area.</p> <p>Two species of seal are resident in UK waters: the grey seal (<i>Halichoerus grypus</i>) and the harbour or common seal (<i>Phoca vitulina</i>), both occurring regularly over large parts of the North Sea. The estimated grey seal-at-sea density within the Western Isles area is thought to be 0.009 individuals per 25 km² (Russell <i>et al.</i>, 2017). The percentage of the grey seal population in the Western Isles area at any given time is ≤0.001% (Carter and Russell, 2020). The estimated harbour seal-at-sea density in the area is thought to be 0.005 individuals per km² (Russell <i>et al.</i>, 2017). The percentage of the harbour seal population in the Western Isles area at any given time is ≤0.001% (Carter and Russell, 2020).</p>

Table 4-1 Environmental Sensitivities

Environmental Receptor	Main Features
Birds	<p>The area surrounding the Western Isles fields is utilised by the following species at various times of the year: European storm petrel <i>Hydrobates pelagicus</i>, long tailed skua <i>Stercorarius longicaudus</i>, northern gannet <i>Morus bassanus</i>, great skua <i>Stercorarius skua</i>, black-legged kittiwake <i>Rissa tridactyla</i>, glaucous gull <i>Larus hyperboreus</i>, great black-backed gull <i>Larus marinus</i>, herring gull <i>Larus argentatus</i>, common guillemot <i>Uria aalge</i>, little auk <i>Alle alle</i>, razorbill <i>Alca torda</i> and Atlantic puffin <i>Fratercula arctica</i> (Kober et al., 2010).</p>
Other Users of the Sea	<p>Shipping activity within Blocks 210/24 and 210/25 is considered to be very low and low respectively (Oil and Gas Authority, 2016).</p> <p>There are no operational offshore wind farms (OWFs) in the vicinity of the Western Isles fields. However, the project area is close to areas identified under the Innovation and Targeted Oil and Gas (INTOG) scheme. The INTOG areas represent areas within which projects targeting oil and gas decarbonisation or which will generate >100 MW of energy will be considered for approval (Marine Scotland, 2021). The Western Isles FPSO lies approximately 27 km southwest of the NE-a and NE-b INTOG areas.</p> <p>There are no other renewables developments, proposed or active, near the project area.</p> <p>There are no active or disused cables within 100 km of the Western Isles field. The CANTAT-3 active telecom cable is located approximately 107 km northeast of the Western Isles FPSO.</p> <p>Blocks 210/24 and 210/25 are not considered blocks of concern to the Ministry of Defence (Oil and Gas Authority, 2019).</p> <p>There are few wrecks recorded in the vicinity of the Western Isles fields. The (non-dangerous) closest wreck is 20 km due east of the Western Isles FPSO. Closer to the project area lies an area of foul ground and an unknown obstacle; both are 10 km from the FPSO and are located <1 km from the associated pipeline (NMPi, 2022).</p>

4.2. Potential Environmental Impacts and their Management

4.2.1. Environmental Impact Assessment Summary

Table Error! No text of specified style in document.-2 Environmental Impact Management		
Activity	Main Impacts	Management
FPSO Sailaway (see also 'Vessels' row below for 'Hazard to Navigation')	Fuel use/atmospheric emissions	<ul style="list-style-type: none"> • Minimal number of vessels deployed • Use of low sulphur diesel • Compliance with Dana's Vessel Assurance process/procedure • All discharges from vessels and the FPSO will be managed in accordance with all relevant regulatory requirements including MARPOL where appropriate • Project Energy and Emissions study details the impact of all activities. The FPSO topsides preparation/make safe will generate 6033 Te CO₂; FPSO marine preparation and tow will generate 4618 Te CO₂
	Disturbance of nesting seabird habitat	<ul style="list-style-type: none"> • Compliance with relevant guidance (e.g. "Undertaking of Seabird Survey Methods for Offshore Installations: Black-legged kittiwakes" (JNCC, 2021) • No history of nesting seabirds on the installation (Note: weekly surveys April to July 2023 reconfirm this) • Implementation of a Nesting Seabird Monitoring Plan

Table Error! No text of specified style in document.-2 Environmental Impact Management		
Activity	Main Impacts	Management
Disconnection and recovery of dynamic flexible risers and dynamic umbilicals and MWAs	Chemical/oil discharge to sea	<ul style="list-style-type: none"> • Appropriate Risk Assessment through the MATs/SATs (OCR) System • Flushing and cleaning of the subsea system ahead of execution phase • Selection of flushing chemicals with lesser potential for environmental impact
	Fuel use/atmospheric emissions	<ul style="list-style-type: none"> • Minimal number of vessels deployed • Use of low sulphur diesel • Compliance with Dana’s Vessel Assurance process/procedure • Project Energy and Emissions study
	Seabed disturbance (Contingency laydown and wet store)	<ul style="list-style-type: none"> • Controlled lowering and laydown of dynamic flexible risers and dynamic umbilicals will minimise area of seabed impacted • The MWA(s) will either be removed to surface or sunk to seabed on a temporary basis, depending on technical difficulty and weather considerations. If laydown is required, controlled lowering and laydown will be employed to minimise areas of seabed impact. The MWA(s) will be recovered to surface as soon as practicable. Divers are not currently anticipated for any work on the disconnection activity associated with the riser, umbilical and moorings. Methods for removal will be engineered as part of the Execute stage of development, including any contingency planning. • All activities which may lead to seabed disturbance will be planned, managed and implemented in such a way that disturbance is minimised. In practical terms this means that dynamically positioned vessels will be used to undertake the decommissioning operations, any excavation will only be undertaken where necessary to facilitate cutting / recovery of items and that recovery basket deployment will be minimised. • Potential impacts will be addressed in the Environmental Assessment Justification submitted in support of the requisite Marine Licence application and any specific mitigation measures required will be identified and implemented via the Marine Licence

Table Error! No text of specified style in document.-2 Environmental Impact Management

Activity	Main Impacts	Management
	Physical presence (Contingency laydown and wet store)	<ul style="list-style-type: none"> • Stakeholder engagement – notably with Scottish Fishermen’s Federation (SFF) and NLB. • Controlled lowering and laydown of dynamic flexible risers and dynamic umbilicals within 500m zone • Infrastructure outside the 500m zone is already exposed to fishing and managed accordingly • ERRV/Guard Vessel will remain on station in period between FPSO sailaway and recovery of the dynamic flexible risers and dynamic umbilicals • Potential impacts will be addressed in the Environmental Assessment Justification submitted in support of the requisite Marine Licence application
Cutting and recovery of mooring lines	Fuel use/atmospheric emissions	<ul style="list-style-type: none"> • Minimal number of vessels deployed • Use of low sulphur diesel • Compliance with Dana’s Vessel Assurance process/procedure • Project Energy and Emissions study
	Seabed disturbance (laydown and potential wet store)	<ul style="list-style-type: none"> • Controlled lowering and laydown of mooring lines to minimise area of seabed impacted • All activities which may lead to seabed disturbance will be planned, managed and implemented in such a way that disturbance is minimised. In practical terms this means that dynamically positioned vessels will be used to undertake the decommissioning operations, any excavation will only be undertaken where necessary to facilitate cutting / recovery of items and that recovery basket deployment will be minimised. • Potential impacts will be addressed in the Environmental Assessment Justification submitted in support of the requisite Marine Licence application and any specific mitigation measures required will be identified and implemented via the Marine Licence
	Onshore waste management	<ul style="list-style-type: none"> • Investigate redeployment/reuse opportunities • Use of appropriately authorised waste management contractor(s) and facilities • Compliance with the Waste Hierarchy • Compliance with project Waste Management Plan

Table Error! No text of specified style in document.-2 Environmental Impact Management

Activity	Main Impacts	Management
Vessels	Hazard to navigation	<ul style="list-style-type: none"> • Safety zones (where/when applicable and being mindful that arrangements will change at certain stages of the project), noting that the current safety zone will apply until after the installation is removed • Dana will communicate with other sea users and mark items in accordance with conditions of the Consent to Locate • All vessels associated with the FPSO sailaway will be marked at site during operations • UKHO standard communication channels including Kingfisher, Notice to Mariners and radio navigation warnings • Use of Automatic Identification Systems (AIS) and other standard navigational controls • All vessels associated with the FPSO sailaway will be marked at site during operations, with an agreed passage plan and tow procedure
	Discharges to sea	<ul style="list-style-type: none"> • Treatment and maceration of wastewater to IMO standards • Bilge management procedures • Good operating practices • Vessel equipment maintained according to manufacturer’s recommendations • Compliance with Dana’s Vessel Assurance process/procedure
	Noise	<ul style="list-style-type: none"> • Vessel noise is unlikely to be above ambient noise levels • No use of explosives
	Fuel use/atmospheric emissions	<ul style="list-style-type: none"> • Minimal number of vessels deployed • Use of low sulphur diesel • Vessel equipment maintained according to manufacturers’ recommendations • Compliance with Dana’s Vessel Assurance process/procedure • Project Energy and Emissions study
Waste	Use of landfill Radioactive waste/NORM	<ul style="list-style-type: none"> • Detailed inventories (including IHM) • Use of appropriately authorised waste management contractor(s) and facilities

Table Error! No text of specified style in document.-2 Environmental Impact Management		
Activity	Main Impacts	Management
		<ul style="list-style-type: none"> • Compliance with the Waste Hierarchy • Compliance with project Waste Management Plan • Compliance with project Waste Management Targets • SCAP

5. INTERESTED PARTY CONSULTATIONS

5.1. Consultations Summary

Table 5-1 Summary of Stakeholder Comments		
Who	Comment	Response
Statutory and Public Consultations		
National Federation of Fishermen's Organisations	Defers to SFF response	Noted
Scottish Fishermen's Federation	Preference expressed for: Guard vessel to remain on location between FPSO sailaway and completion of subsea decommissioning Overtrawl trials to be conducted where: - mooring lines removed; - within 500m radius of installation; - along 100m wide corridor for all decommissioned pipelines that may be disturbed during decommissioning works and also for any anchor mound locations	Noted
Northern Ireland Fish Producers Organisation	No comments received	n/a
Global Marine Group Limited	No comments to make since there are no cables within 100 km	Noted
Public	No comments received	n/a
Informal Stakeholder Consultations		
HSE	Introductory engagement on the Western Isles FPSO and subsea decommissioning programmes on 28 th July 2022 (virtual meeting)	
SEPA	Opening engagement and general information sharing on the Western Isles FPSO and subsea decommissioning on 23 January 2023 (virtual meeting).	
SFF	Introductory engagement on the Western Isles FPSO and subsea decommissioning programmes on 28 th July 2022 (virtual meeting)	
JNCC	Introductory engagement on the Western Isles FPSO and subsea decommissioning programmes on 11 th August 2022 (virtual meeting)	

6. PROGRAMME MANAGEMENT

6.1. Project Management and Verification

A Project Management team will be appointed to manage suitable sub-contractors for the removal of the Western Isles FPSO. Standard procedures for operational control and hazard identification and management will be used. Where possible the work will be coordinated with other decommissioning operations in the NNS. The Project Management team will monitor and track the process of consents and the consultations required as part of this process. Any changes in the details of the offshore removal programme will be discussed and agreed with OPRED.

6.2. Post-Decommissioning Debris Clearance and Verification

The remaining subsea infrastructure (MWAs, mooring piles and other pipeline related equipment) will be decommissioned separate to the FPSO, risers, umbilicals and mooring line removal scopes, and are covered within the separate subsea infrastructure DP. As such seabed clearance for both DPs will be undertaken following completion of all the subsea works.

It is acknowledged that navigational aids and/or a guard vessel will be required to mitigate collision hazards for other users of the sea in instances where the 500m safety zone is no longer in place and/or potential navigational hazards remain. Detailed removals plans have not yet been established, however Dana shall ensure that Admiralty Charts and Notices to Mariners are updated, and engagement maintained with the HSE and NLB to ensure appropriate mitigation measures are agreed and put in place.

Following completion of all decommissioning works in the Western Isles (Harris and Barra) Fields a post-decommissioning site survey will be carried out around a 500m radius of installation sites and a 100m corridor (50m either side) along each existing pipeline route to identify any debris. Any seabed debris related to offshore oil and gas activities will be recovered for onshore disposal or recycling in line with existing disposal methods. There is an assumption that non-intrusive methods will be used and trawling will only be used after non-intrusive measures have been exhausted. Upon verification of a clear seabed a statement of clearance to all relevant governmental departments and non-governmental organisations will be issued. It is proposed the verification work for the scope of this DP be completed in conjunction with the subsea DP.

6.3. Schedule

A proposed schedule for the decommissioning of Western Isles is provided in Figure 6.1. The commencement of any execution activities is subject to commercial agreements and contracts. At this time the schedule is based on earliest anticipated CoP of late March 2024, subject to further discussions.

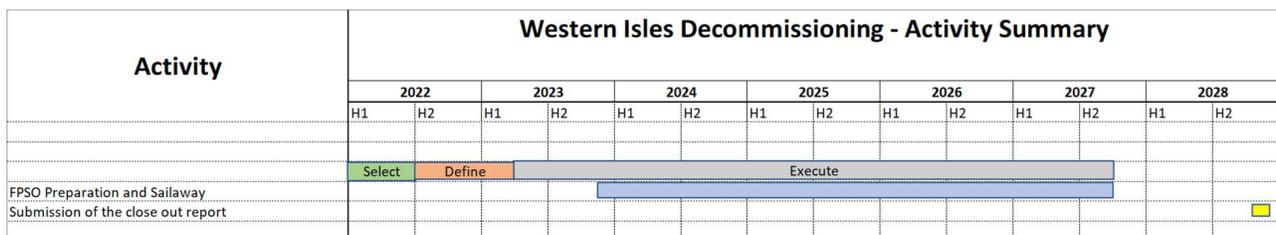


Figure 6-1 Gantt Chart of Project Plan

6.4. Costs

The decommissioning programme costs will be provided directly to OPRED.

6.5. Close Out

On completion of all works captured by this DP, only the FPSO, mooring lines, flexible risers and dynamic umbilicals will be decommissioned. As such post-decommissioning surveys will be limited to “as-left” surveys of associated seabed and subsea infrastructure affected by these works.

Subject to agreement with OPRED, findings from these surveys shall be included in a close out report submitted to OPRED within one year of the completion of the Western Isles FPSO decommissioning scope. The report will detail the outcomes of surveys as well as explain any major variances from the programme. The debris clearance, verification of seabed clearance and the first post-decommissioning environmental survey shall be performed after completion of the Western Isles subsea infrastructure decommissioning scope.

6.6. Post-Decommissioning Monitoring and Evaluation

A post-decommissioning environmental seabed survey, centred around sites of the wellheads and installations, will be carried out after the completion of the decommissioning of the whole area including the infrastructure detailed within the separate Subsea DP. The survey will assess the chemical, physical and biological impacts of the decommissioning activities and be compared with the pre decommissioning survey. All pipeline routes and installation sites will be the subject of post-decommissioning monitoring surveys, the frequency of which will be agreed between Dana and OPRED taking a risk-based approach.

Prior to FPSO removal, a risk-based assessment will be undertaken to determine suitable marking of the subsea infrastructure around the FPSO location. It is acknowledged that navigational aids and/or a guard vessel may be required to mitigate hazards for other users of the sea.

7. SUPPORTING DOCUMENTS

It has not been deemed necessary to prepare a comparative assessment or an environmental appraisal in support of this combined DP. This approach has been agreed with OPRED.

Table 7-1 Supporting Documents	
Reference	Title
Cost schedule	Provided in confidence to OPRED
Reference	Title
Carter and Russell, 2020	Carter, M. and Russell, D. J. F. (2020). At-Sea Density Maps for Grey and Harbour Seals in the British Isles (2020) (dataset). Available online at: https://risweb.st-andrews.ac.uk/portal/en/datasets/atsea-density-maps-for-grey-and-harbour-seals-in-the-british-isles-2020-dataset(dcebb865-3177-4498-ac9d-13a0f10b74e1).html
Coull et al., 1998	Coull, K., Johnstone, R. & Rogers, S., 1998. Fisheries Sensitivity Maps in British Waters, Published and distributed by UKOOA Ltd. Available online at: http://marine.gov.scot/data/fisheries-sensitivity-maps-british-waters-coull-et-al-1998
Ellis et al., 2012	Ellis, J.R., Milligan, S., Readdy, L., South, A., Taylor, N. & Brown, M., 2012. Mapping the spawning and nursery grounds of selected fish for spatial planning. Report to the Department of Environment, Food and Rural Affairs from Cefas. Defra Contract No. MB5301. Available online at: https://www.cefas.co.uk/publications/techrep/TechRep147.pdf
Gardline (2010a)	UKCS Block 210/24 Western Isles Development Site Survey: Environmental Baseline Report (October 2010)
Gardline (2010b)	UKCS Block 210/24 Western Isles Development Pipeline Route Survey: Environmental Baseline Report (October 2010)
Gardline (2012)	UKCS Block 210/24a Western Isles Development Infield Routes Survey: Pipeline Route Survey (December 2012)
Hammond et al., 2021	Hammond, P. S., Lacey, C., Gilles, A., Viquerat, S., Börjesson, P., Herr, H., MacLeod, K., Ridoux, V., Santos, M. B., Scheidat, M., Teilmann, J. and Øien, N., 2021. Estimates of cetacean abundance in European Atlantic waters in summer 2016 from the SCANS-III aerial and shipboard surveys (Revised 2021)
JNCC, 2021	JNCC, 2021. Seabird Survey Methods for Offshore Installations: Black-legged kittiwakes. Advice Note. March 2021. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/974338/Kittiwake_survey_advice_v2.1.pdf
Kober et al., 2010	Kober, K., Webb, A., Win, I., Lewis, M., O'Brien, S., Wilson, J. L., Ried, B. J., 2010. An analysis of the numbers and distribution of seabirds within the British Fishery Limit aimed at identifying areas that qualify as possible marine SPAs. ISSN; 0963-8091. JNCC report No.431
NMPi, 2022	NMPi, 2021. National Marine Plan Interactive. Available online at: http://www.gov.scot/Topics/marine/seamanagement/nmpihome
Oil and Gas Authority, 2016	Oil and Gas Authority, 2016. Information of levels of shipping activity. 29th Offshore Licensing Round information and resources.

Oil and Gas Authority, 2019	Oil and Gas Authority, 2019. Other Regulatory Issues 32nd Licensing Round information and Resources. Available online at: https://www.ogauthority.co.uk/media/5883/other-regulatory-issues-july-2019.pdf
OPRED (2018)	Offshore Petroleum Regulator for Environment and Decommissioning, 2018. Offshore Oil and Gas Decommissioning Guidance Notes. Available online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/760560/Decom_Guidance_Notes_November_2018.pdf
Reid et al., 2003	Reid, J., Evans, P. & Northridge, S., 2003. An atlas of cetacean distribution on the northwest European Continental Shelf, Joint Nature Conservation Committee: Peterborough.
Russell et al., 2017	Russell, D. F., Jones, E. L., Morris, C. D. (2017). Updated Seal Usage Maps: The Estimated at-sea Distribution of Grey and Harbour Seals, Scottish Marine and Freshwater Science Report Vol 8 No 25. Available online at: https://data.marine.gov.scot/dataset/updated-seal-usage-maps-estimated-sea-distribution-grey-and-harbour-seals
Scottish Government, 2021	Scottish Government, 2021. Scottish Sea Fisheries Statistics, 2020. Scottish Government. Available online at: https://data.marine.gov.scot/dataset/2020-provisional-scottish-sea-fisheries-statistics-fishing-effort-and-quantity-and-value



8. Section 29 Notice Holder Letters of Support

Dana Petroleum Limited
Itochu Corporation
NEO Energy Group Limited
NEO Energy (UKCS) Limited
NEO Energy Upstream UK Limited



Dana Petroleum Limited
King's Close
62 Huntly Street
Aberdeen
AB10 1RS
United Kingdom

t: +44 (0) 1224 616 000
f: +44 (0) 1224 616 001
www.dana-petroleum.com

Offshore Petroleum Regulator for Environment and Decommissioning
Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

19 September 2023

Dear Madam,

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

Decommissioning of the Western Isles (Barra & Harris) Fields Floating Production Storage and Offloading Vessel (FPSO)

We acknowledge receipt of your letter dated 7 September 2023.

We, Dana Petroleum Limited confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to the Western Isles FPSO facilities as directed by the Secretary of State on 7 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,


Jaegu Nam (Sep 19, 2023 12:00 GMT+1)

Jaegu Nam
Chief Executive Officer
For and on behalf of Dana Petroleum Limited



Dana Petroleum Limited
King's Close
62 Huntly Street
Aberdeen
AB10 1RS
United Kingdom

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www.dana-petroleum.com

Offshore Petroleum Regulator for Environment and Decommissioning
Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

19 September 2023

Dear Madam,

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

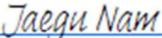
Decommissioning of the Western Isles (Barra & Harris) Fields Flexible Risers and Dynamic Umbilical sections of PL3186, PL3729.1, PL3729.2, PL3729.3, PL3729.4, PLU3729.5, PL3730.1, PL3730.2, PL3730.3, PL3730.4 and PLU3730.5 associated with the Western Isles FPSO

We acknowledge receipt of your letter dated 14 September 2023.

We, Dana Petroleum Limited confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to the Western Isles FPSO facilities as directed by the Secretary of State on 14 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,


Jaegu Nam (Sep 19, 2023 12:00 GMT+1)

Jaegu Nam
Chief Executive Officer
For and on behalf of Dana Petroleum Limited



ITOCHU Corporation
5-1, Kita-Aoyama 2-chome
Minato-ku, Tokyo 107-8077, Japan
Telephone: +81 - 3 - 3497 - 6642
Facsimile: +81 - 3 - 3497 - 8108

Offshore Petroleum Regulator for Environment and Decommissioning
Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

20 September 2023

Dear Sir or Madam.

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

Decommissioning of the Western Isles (Barra & Harris) Fields FPSO

We acknowledge receipt of your letter dated 7 September 2023.

We, ITOCHU Corporation confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to the Western Isles FPSO facilities as directed by the Secretary of State on 7 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully

A handwritten signature in black ink, appearing to read "H. Aoki", written over a light blue horizontal line.

Hiroshi Aoki
General Manager
Oil & Gas Upstream Business Development Department
Energy Division
Energy & Chemicals Company
ITOCHU Corporation

For and on behalf of **ITOCHU Corporation**

Registered Company No. 7120 001077358



ITOCHU Corporation
5-1, Kita-Aoyama 2-chome
Minato-ku, Tokyo 107-8077, Japan
Telephone: +81 - 3 - 3497 - 6642
Facsimile: +81 - 3 - 3497 - 8108

Offshore Petroleum Regulator for Environment and Decommissioning

Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

20 September 2023

Dear Sir or Madam.

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

Decommissioning of the Western Isles (Barra & Harris) Fields Flexible Risers and Dynamic Umbilical sections of PL3186, PL3729.1, PL3729.2, PL3729.3, PL3729.4, PLU3729.5, PL3730.1, PL3730.2, PL3730.3, PL3730.4 and PLU3730.5 associated with the Western Isles FPSO

We acknowledge receipt of your letter dated 14 September 2023.

We, ITOCHU Corporation confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to pipelines associated with the Western Isles FPSO facilities as directed by the Secretary of State on 14 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully

Hiroshi Aoki
General Manager
Oil & Gas Upstream Business Development Department
Energy Division
Energy & Chemicals Company
ITOCHU Corporation

For and on behalf of **ITOCHU Corporation**

Registered Company No. 7120 001077358



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Offshore Petroleum Regulator for Environment and Decommissioning
Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

20 September 2023

Dear Madam,

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

Decommissioning of the Western Isles (Barra & Harris) Fields Floating Production Storage and Offloading Vessel (FPSO)

We acknowledge receipt of your letter dated 7 September 2023.

We, NEO Energy Group Limited confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to the Western Isles FPSO facilities as directed by the Secretary of State on 7 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,

DocuSigned by:

663513F9B82E46E...

Andrew McIntosh
General Counsel and Head of Business Services
Company Secretary
For and on behalf of **NEO Energy Group Limited**



Offshore Petroleum Regulator for Environment and Decommissioning
Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

20 September 2023

Dear Madam,

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

Decommissioning of the Western Isles (Barra & Harris) Fields Flexible Risers and Dynamic Umbilical sections of PL3186, PL3729.1, PL3729.2, PL3729.3, PL3729.4, PLU3729.5, PL3730.1, PL3730.2, PL3730.3, PL3730.4 and PLU3730.5 associated with the Western Isles FPSO

We acknowledge receipt of your letter dated 14 September 2023.

We, NEO Energy Group Limited confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to the Western Isles FPSO facilities as directed by the Secretary of State on 14 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,

DocuSigned by:

663513F9B82E46E...

Andrew McIntosh
General Counsel and Head of Business Services
Company Secretary
For and on behalf of **NEO Energy Group Limited**



Offshore Petroleum Regulator for Environment and Decommissioning
Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

20 September 2023

Dear Madam,

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

Decommissioning of the Western Isles (Barra & Harris) Fields Floating Production Storage and Offloading Vessel (FPSO)

We acknowledge receipt of your letter dated 7 September 2023.

We, NEO Energy (UKCS) Limited confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to the Western Isles FPSO facilities as directed by the Secretary of State on 7 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,

DocuSigned by:

663513F9B82E46E...

Andrew McIntosh
General Counsel and Head of Business Services
Company Secretary
For and on behalf of **NEO Energy (UKCS) Limited**



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Offshore Petroleum Regulator for Environment and Decommissioning
Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

20 September 2023

Dear Madam,

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

Decommissioning of the Western Isles (Barra & Harris) Fields Flexible Risers and Dynamic Umbilical sections of PL3186, PL3729.1, PL3729.2, PL3729.3, PL3729.4, PLU3729.5, PL3730.1, PL3730.2, PL3730.3, PL3730.4 and PLU3730.5 associated with the Western Isles FPSO

We acknowledge receipt of your letter dated 14 September 2023.

We, NEO Energy (UKCS) Limited confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to the Western Isles FPSO facilities as directed by the Secretary of State on 14 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,

DocuSigned by:

663513F9B82E46E...

Andrew McIntosh
General Counsel and Head of Business Services
Company Secretary
For and on behalf of **NEO Energy (UKCS) Limited**



Offshore Petroleum Regulator for Environment and Decommissioning
Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

20 September 2023

Dear Madam,

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

Decommissioning of the Western Isles (Barra & Harris) Fields Floating Production Storage and Offloading Vessel (FPSO)

We acknowledge receipt of your letter dated 7 September 2023.

We, NEO Energy Upstream UK Limited confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to the Western Isles FPSO facilities as directed by the Secretary of State on 7 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,

DocuSigned by:

663513F9B82E46E...

Andrew McIntosh
General Counsel and Head of Business Services
Company Secretary
For and on behalf of **NEO Energy Upstream UK Limited**



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Offshore Petroleum Regulator for Environment and Decommissioning
Department for Energy Security & Net Zero
2nd Floor, Wing C
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

20 September 2023

Dear Madam,

Western Isles FPSO Decommissioning Programmes Petroleum Act 1998

Decommissioning of the Western Isles (Barra & Harris) Fields Flexible Risers and Dynamic Umbilical sections of PL3186, PL3729.1, PL3729.2, PL3729.3, PL3729.4, PLU3729.5, PL3730.1, PL3730.2, PL3730.3, PL3730.4 and PLU3730.5 associated with the Western Isles FPSO

We acknowledge receipt of your letter dated 14 September 2023.

We, NEO Energy Upstream UK Limited confirm that we authorise Dana Petroleum (E&P) Limited to submit on our behalf abandonment programmes relating to the Western Isles FPSO facilities as directed by the Secretary of State on 14 September 2023.

We confirm that we support the proposals detailed in the Western Isles FPSO Decommissioning Programmes dated 18 September 2023, which is to be submitted by Dana Petroleum (E&P) Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,

DocuSigned by:

663513F9B82E46E...

Andrew McIntosh
General Counsel and Head of Business Services
Company Secretary
For and on behalf of **NEO Energy Upstream UK Limited**

9. STATUTORY CONSULTEE CORRESPONDENCE

The following pages contain the consultation correspondence from the statutory consultees:

- (i) Global Marine Group
- (ii) National Federation of Fishermen's Organisations
- (iii) Scottish Fishermen's Federation

The Northern Ireland Fishermen's Federation did not submit a response.

From: [redacted] (Global Marine Group) [redacted]@oceaniq.co.uk  
Subject: RE: Western Isles FPSO - Draft Decommissioning Programmes
Date: 3 March 2023 at 14:15
To: Carol Barbone carolbarbone@gmail.com
Cc: Carol Barbone carol.barbone@dana-petroleum.com, [redacted] (OceanIQ) [redacted]@oceaniq.co.uk



Good afternoon Carol,

Many thanks for providing the draft decom program for the Western Isles FPSO.

As there are no active or disused cables within 100 km of the Western Isles field, I have no comments on this.

Good luck with the program.

Kind regards,

[redacted]

From: Carol Barbone <carolbarbone@gmail.com>
Sent: 03 March 2023 07:58
To: [redacted] (Global Marine Group) <[redacted]@oceaniq.co.uk>
Cc: Carol Barbone <carol.barbone@dana-petroleum.com>
Subject: Western Isles FPSO - Draft Decommissioning Programmes

Dear [redacted]

I am writing to advise that the statutory and public consultation on the Draft Decommissioning Programmes for the Western Isles floating production storage and offloading (FPSO) vessel and its associated mooring systems, risers and dynamic umbilicals has started today (3 March) and runs for 30 days. A copy of the document is attached.

The facilities covered are located within UK block 210/24a in the Northern North Sea, approximately 90 km to the north-east of Shetland and 58 km from the UK / Norway median line.

We would be pleased to have the GMS's comments on the proposals in your capacity as statutory consultee. Comment should be sent in writing to me for the attention of Stuart Wordsworth by the consultation closing date, 3 April 2023.

In the meantime, should you have any questions about the consultation or the proposals, please do come back to me.

Kind regards

Carol



IR

[Redacted]

Western Isles FPSO Decommissioning program
To: Stuart Wordsworth, Cc: Carol Barbone

3 March 2023 at 10:41

[Details](#)

Good morning Stuart
In reference to the Draft decommissioning program for the Western Isles FSPO and all associated infrastructure, please see attached the National Federation Fisherman’s Organisations response.

Best regards

[Redacted]



The National Federation of
Fishermen’s Organisations

Dana Petroleum (E&P) Limited
62 Huntly Street
Aberdeen
AB10 1RS

3rd March 2023.

Attention of: Stuart Wordsworth.
Decommissioning Manager.

Hello Stuart

In reference to the Draft Decommissioning Programmes for the Western Isles Floating Production Storage and Off-loading vessel (FPSO) and associated mooring systems, risers, and dynamic umbilical's related to the assets decommissioning program.

The National Federation Fisherman's Organisation's would like to thank Dana Petroleum for the detailed documentation explaining the planned methodology regarding the decommissioning of this asset and the related infrastructure.

Due to the geographical area of these assets been in Scottish Waters the National Federation Fishermen's Organisation (NFFO) have no comments regarding the planned decommissioning program, as the Scottish Fishermen's Federation who we work closely with are best placed to comment and raise any concerns if required.

Kind Regards

[Redacted]



Our Ref: FH/01/0023

Your Ref: Email dated 03/03/2023

06/ April 2023

Scottish Fishermen's Federation
24 Rubislaw Terrace
Aberdeen, AB10 1XE
Scotland UK
S
T: +44 (0) 1224 646944
F: +44 (0) 1224 647058
E: sff@sff.co.uk

www.sff.co.uk

Mr Stuart Wordsworth
Dana Petroleum Limited
King's Close
62 Huntly Street
Aberdeen
AB10 1RS

Dear Stuart,

Draft Decommissioning Programmes for the Western Isles Floating Production Storage and Offloading (FPSO) vessel and associated mooring systems, risers and dynamic umbilicals

I refer to the Consultation on Draft Decommissioning Programmes provided in your email of 03 March 2023.

The Scottish Fishermen's Federation (SFF) appreciates the clearly laid out and detailed explanation of the decommissioning proposals submitted by Dana Petroleum (E&P) Limited for the sailaway of the Western Isles FPSO vessel and disconnection and removal to ashore of the associated mooring systems, risers and dynamic umbilicals and place on record our appreciation of the information provided.

It is noted that these particular decommissioning programmes are for the removal of the FPSO and the associated mooring systems, risers and dynamic umbilicals systems from the Western Isles Development, with the remaining field infrastructure including the FPSO mooring lines lower section of the chain connecting to the anchor piles subject to a separate later decommissioning.

For your information, I can advise that the SFF's Oil and Gas Decommissioning Policy and accompanying Key Principles document can be viewed via the SFF's website using the following link: <https://www.sff.co.uk/sff-offshore-oil-gas-decommissioning-policy/>.

Members:

Anglo Scottish Fishermen's Association - Fife Fishermen's Association - Fishing Vessel Agents & Owners Association (Scotland) Ltd -
Mallaig & North-West Fishermen's Association Ltd - Orkney Fisheries Association - Scottish Pelagic Fishermen's Association Ltd -
The Scottish White Fish Producers' Association Ltd - Shetland Fishermen's Association

VAT Reg No: 605 096 748



As highlighted in the SFF's Oil and Gas Decommissioning Policy documentation, the concerns of fishermen are primarily that of safety and the physical impact on the fishing grounds of the long-term presence of oil industry infrastructure on the seabed. With this in mind, the SFF's preferred position with regard to the decommissioning of oil and gas infrastructure is one of total removal.

The SFF appreciate Dana's efforts on disconnection and recovery of the flexible risers and dynamic umbilicals ashore at time of FPSO sailaway. In addition, it is noted that if recovery of the risers and dynamic umbilicals is not feasible at that time, they may be temporarily wet stored for recovery at a later date, and that in this instance a guard vessel will remain on location after sailaway to mitigate hazards for other users of the sea.

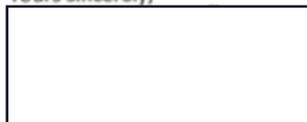
The SFF note that the remaining subsea infrastructure (MWAs, mooring piles and other pipeline related equipment) will be decommissioned separate to the FPSO, risers, umbilicals and mooring line removal scopes. As such seabed clearance for both DPs will be undertaken following completion of all the subsea works and there is an assumption that non-intrusive methods will be used, and trawling will only be used after non-intrusive measures have been exhausted. In addition, it is acknowledged that navigational aids and/or a guard vessel will be required to mitigate collision hazards for other users of the sea in instances where the 500m safety zone is no longer in place and/or potential navigational hazards remain.

The SFF's view with regard to a scenario where a FPSO has sailed away prior to the removal of the associated subsea infrastructure (even where a subsequent 500 metre subsea Safety Zone (SZ) has been applied for/is in place) is that as a safety consideration to other users of the sea, a ERRV/guard vessel (preferably dedicated) should be deployed until such time as the subsea decommissioning works both within and outwith the immediate SZ area have been completed – to provide protection against fishing vessels unwittingly snagging on 'interim' remaining subsea infrastructure and/or pre-remedial rectification work localities such as anchor mounds/anchor scarring areas.

In addition, the SFF recommends over-trawling over the areas where morning lines have been removed but the FPSP mooring lines lower section of the chain connecting to the anchor piles are still in place to ensure safe fishing operations can resume in the area. Furthermore, I can confirm that the SFF will be pushing for over trawl verification surveys to be undertaken around a 500m radius of installation sites to provide reassurance to fishermen that it is safe for fishing operations to resume in the locality. We would suggest that the trawl verification sweeps should also include any seabed areas outside of the existing 500m safety zones and along a 100m wide corridor for all decommissioned pipelines that may be disturbed during decommissioning works and also for any anchor mounds locations.

The Federation having stated the above position, would reaffirm its appreciation of the decommissioning plans provided and its wish to work closely and positively with the Western Isle Field Decommissioning Team, as you work through the challenges before you.

Yours sincerely,



From: Stuart Wordsworth stuart.wordsworth@dana-petroleum.com 
Subject: RE: SFF Response on Dana Petroleum Ltd Western Isle FPSO Decommissioning Programme
Date: 6 April 2023 at 18:26
To: [redacted]@sff.co.uk
Cc: Carol Barbone carolbarbone@gmail.com, [redacted]
[redacted]



Dear [redacted]

Thank you for your email and the attached letter, its contents are duly noted.

Many thanks

Stuart

From: [redacted]@sff.co.uk>
Sent: 06 April 2023 16:25
To: Stuart Wordsworth <stuart.wordsworth@dana-petroleum.com>
Cc: Carol Barbone <carolbarbone@gmail.com>; [redacted]
[redacted]
Subject: SFF Response on Dana Petroleum Ltd Western Isle FPSO Decommissioning Programme

External email: Use caution with links/attachments

Dear Stuart,

Thank you very much for sharing the draft Decommissioning Programmes for the Western Isles FPSO vessel and associated mooring systems, risers and dynamic umbilicals, with SFF for consultation.

Please find attached SFF response on this consultation for your reference.

Should you have any questions, feel free to contact me.

Best wishes,

[redacted]

Scottish Fishermen's Federation

24 Rubislaw Terrace | Aberdeen | AB10 1XE

T: +44 (0) 1224 646944 | M: [redacted]

E: [redacted]@sff.co.uk

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APPENDIX 1 COPY OF PUBLIC NOTICE



THE GAZETTE

EDINBURGH GAZETTE

ENVIRONMENT & INFRASTRUCTURE

ENERGY

PUBLIC NOTICE THE PETROLEUM ACT 1998 DECOMMISSIONING PROGRAMME FOR THE WESTERN ISLES FPSO

Dana Petroleum (E&P) Limited has submitted, for the consideration of the Secretary of State for Energy Security and Net Zero, a draft Decommissioning Programme for the Western Isles floating production storage and offloading (FPSO) vessel and its associated mooring systems, risers and dynamic umbilicals in accordance with the provisions of the Petroleum Act 1998 (The Act). It is a requirement of the Act that interested parties be consulted on such proposals.

The facilities covered by the Western Isles FPSO draft Decommissioning Programmes are located within UK block 210/24a in the Northern North Sea (NNS). The field lies approximately 90 km to the north-east of Shetland and 58 km from the UK / Norway median line. The Western Isles FPSO draft Decommissioning Programme covers one vessel and associated subsea infrastructure including:

- 12 mooring lines (3 groups of 4 lines)
- 9 flexible risers
- 2 dynamic umbilicals

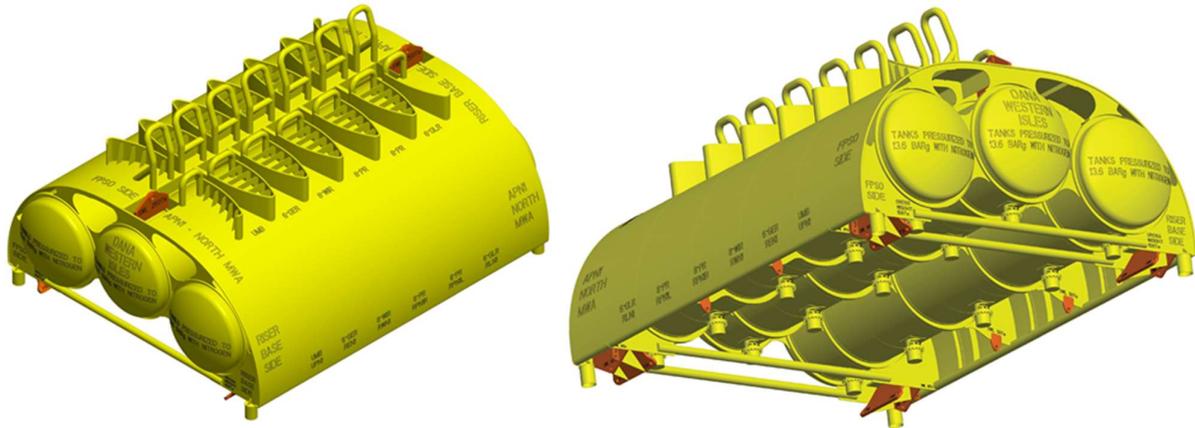
Dana Petroleum (E&P) Limited hereby gives notice that the Western Isles FPSO draft Decommissioning Programme is readily available on request from www.dana-petroleum.com/. To receive a paper copy of the draft Decommissioning Programme, please visit our office at 62 Huntly Street, Aberdeen AB10 1RS or email stuart.wordsworth@dana-petroleum.com.

Representations regarding the draft Western Isles FPSO Decommissioning Programme should be submitted in writing to Stuart Wordsworth via the email address above by the consultation closing date, 3 April 2023. Submissions should include the rationale upon which any representations are being made. (4294561)

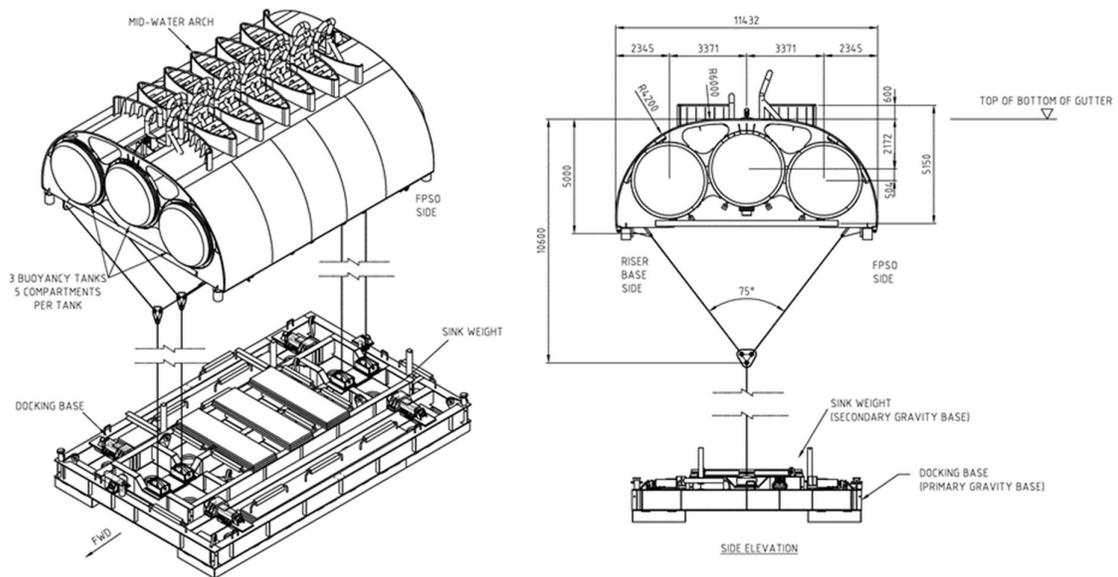
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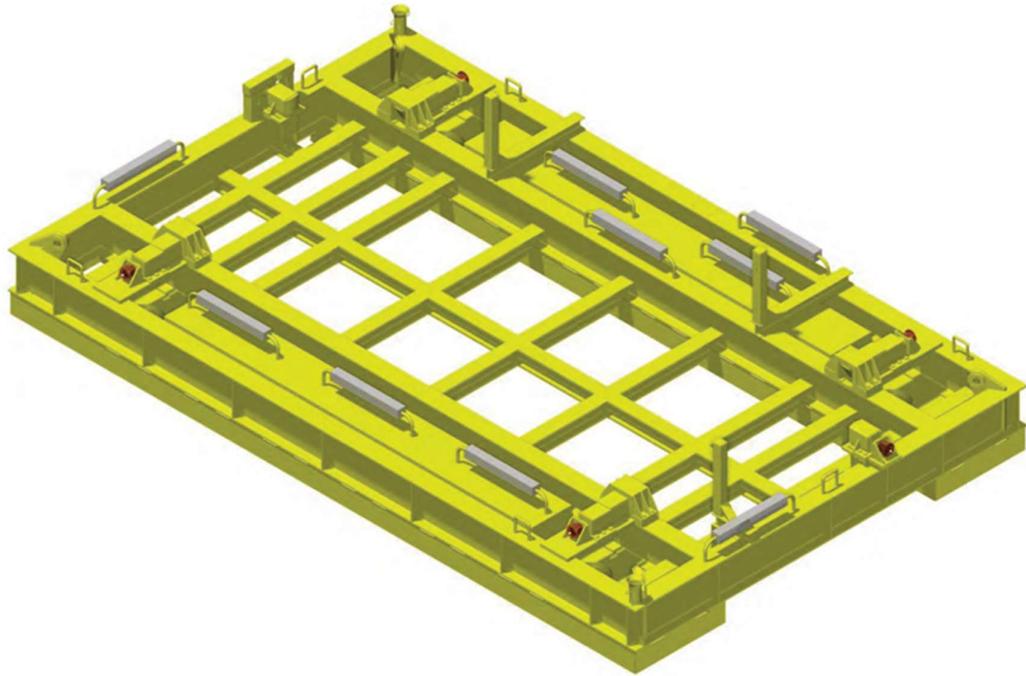
APPENDIX 2 MIDWATER ARCHES AND GRAVITY BASES



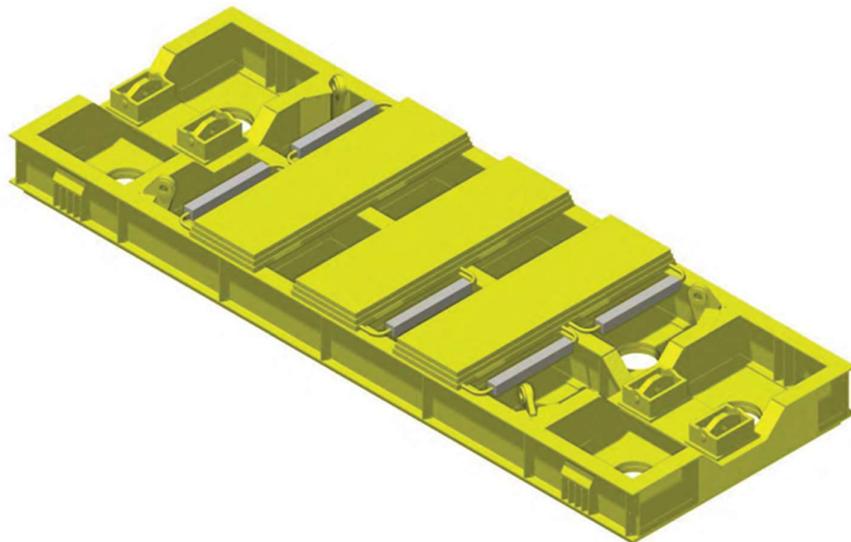
North MWA ISO View



Western Isles MWA System Installed Assembly



Western Isles MWA Primary Gravity Base



Western Isles MWA Sinker Base