Nelson Derrick Decommissioning Programme

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Document Control

Approvals

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North Sea Transition Authority (NSTA)	1

Contents

Figures and Tables

List of Figures

List of Tables

Appendices

Terms and Abbreviations

Term	Explanation
BEIS	Department for Business, Energy and Industrial Strategy
BOM	Business Opportunity Manager (in Shell)
CEFAS	Centre for Environment, Fisheries and Aquaculture Science
CNS	Central North Sea
CO_2	Carbon Dioxide
CO	Carbon Monoxide
CoP	Cessation of Production
DESNZ	Department for Energy Security and Net Zero
DP	Decommissioning Programme
D&R	Decommissioning and Restoration (group in Shell)
E&I	Electrical and Instrumentation (equipment)
EMODNet	European Marine Observation and Data Network
ENVID	Environmental Impact Identification
EPS	European Protected Species
EU	European Union
EUNIS	European Nature Information System
GHG	Greenhouse Gas
GMAS	Global Maritime Assurance System
HAZID	Hazard Identification
HLV	Heavy Lift Vessel
HSE	Health and Safety Executive (of UK)
HSSE&SP	Health, Safety, Security, Environment and Social Performance
HWU	Hydraulic Workover Unit
ICES	International Council for the Exploration of the Seas
INTOG	Innovation and Targeted Oil and Gas
IPCC	International Panel on Climate Change
JNCC	Joint Nature Conservation Committee
kg	Kilogramme
km	Kilometre
LAT	Lowest Astronomical Tide
LSA	Low Specific Activity (scale)
MPA	Marine Protected Area
NCMPA	Nature Conservation MPA
NFFO	National Federation of Fisheries Organisations
NIFPO	Northern Ireland Fish Producers Organisation
NORM	Naturally Occurring Radioactive Material
NSTA	North Sea Transition Authority
NOx	Nitric Oxide and Nitrogen Dioxide
N_2O	Nitrous Oxide
ODU	Offshore Decommissioning Unit (of OPRED)
OEUK	Offshore Energies UK
OPEP	Oil Pollution Emergency Plan
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OSPAR	Oslo Paris Commission
OSRL	Oil Spill Response Limited
P&A	Plug and Abandon (wells)

Term	Explanation
PMF	Priority Marine Feature
PON	Petroleum Operations Notice
SCAP	Supply Chain Action Plan
SEE	Shipboard Energy Efficiency [Management Plan]
SFF	Scottish Fishermen's Federation
SIMOPS	Simultaneous Operations
SLV	Single Lift Vessel
SO_2	Sulphur Dioxide
Te	Metric Tonne (1,000kg)
UKCS	United Kingdom Continental Shelf
VOC	Volatile Organic Compound
WBS	Work Breakdown Structure
WGS84	World Geodetic System 1984
WMP	Waste Management Plan

1 EXECUTIVE SUMMARY

1.1 Decommissioning Programmes

This document presents one Decommissioning Programme (DP) for the derrick of the Nelson A installation. It has been prepared by Shell U.K. Limited in accordance with Section 29 of the Petroleum Act 1998 on behalf of Enterprise Oil Limited, the operator of the Nelson A installation, and the Section 29 Notice Holders. The Notice Holders are listed in Table 1.2 and are Shell U.K. Limited (Shell), Apache North Sea Limited, Enterprise Oil Limited (operator), Esso Exploration and Production UK Limited, NEO Energy Central North Sea Limited, NEO Energy Natural Resources Limited, Premier Oil E&P UK Limited, Premier Oil UK Limited, Rockrose UKCS4 Limited and TotalEnergies E&P UK Limited. Enterprise Oil Limited is a member of the Shell Group. The Section 29 Notice Holders confirm that they support the proposals described in this DP.

Throughout this document, the terms “owners”, “we” and “our” refer to the co-venturers as noted above.

1.2 Requirement for Decommissioning Programme

In accordance with the Petroleum Act 1998, the Section 29 Notice Holders of the Nelson A installation are applying to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) for approval to undertake decommissioning work on the installation as detailed in Section 3 of this DP.

In conjunction with public, stakeholder and regulatory consultation, the DP is submitted in compliance with national and international regulations and the BEIS (DESNZ) Guidance Notes.

1.3 Introduction

The Nelson Field is located in the UK sector of the North Sea, approximately 204 km East of Aberdeen. It was discovered in 1988 and is serviced by a single platform, Nelson A, located in Block 22/11, which also serves as a hub for the Howe Field and the Bardolino Field. Nelson started production in 1994 and it is anticipated that production will cease in 2028.

In preparation for the decommissioning of the Nelson installation, the owners wish to begin decommissioning the 33 platform wells. The existing platform derrick is not suitable for safe and efficient wells decommissioning work. The owners have concluded that the derrick should be decommissioned and removed so that wells can be decommissioned using a newly-installed Hydraulic Workover Unit (HWU) or a modular rig. This DP describes that proposed programme of work, which is scheduled to begin in April 2025 and take about 7 months to complete.

Further Decommissioning Programme(s) for the Nelson installation and facilities will be submitted as appropriate.

1.4 Overview of Installation Being Decommissioned

Table 1.1: Installation Being Decommissioned			
Field	Nelson	**Production Type**	Oil and Gas
Water Depth (m)	84	**UKCS block**	22/11
Distance to median (km)	54	**Distance from nearest UK coastline (km)**	176
Surface Installation(s)			
Number	Type	Weight (Te)	
1	Derrick	Approximately 1,452 tonnes	

Table 1.2: Nelson Installation Section 29 Notice Holders		
S29 Notice Holder	**Registration Number**	**Equity Interest**
Apache North Sea Limited	04614761	11.52%
Enterprise Oil Limited	01682048	36.88%
Esso Exploration and Production UK Limited	00207426	0%
NEO Energy Central North Sea Limited	05894683	21.23%
NEO Energy Natural Resources Limited	13018823	0%
Premier Oil E&P UK Limited	02761032	1.66%
Premier Oil UK Limited	SC048705	0%
Rockrose UKCS4 Limited	02552901	7.48%
Shell U.K. Limited	00140141	21.23%
TotalEnergies E&P UK Limited	00811900	0%

1.5 Summary of Proposed Decommissioning Programme

Table 1.3: Summary of Decommissioning Programme		
Selected Option	**Reason for Selection**	**Proposed Decommissioning Solution**
1. Derrick on the Topsides		
Complete removal for recycling or disposal.	Allows an alternative system to be installed for safe and efficient P&A activities.	The Derrick will be removed by piece small dismantling and taken to shore for recycling.
2. Interdependencies		
The work will be undertaken as a sub-project during the normal operation of the platform. It will not affect the platform wells or other operations and facilities on the topsides. It will not affect the subsea wells and facilities tied back to Nelson. It will not impact the seabed drill cuttings pile. It will not affect any pipelines to or from the Nelson platform. The proposed programme of work will not foreclose or pre-judge any potential decommissioning solution for any other assets, including the Nelson wells, the Nelson topsides and jacket, any subsea facilities tied back to Nelson, and any pipeline, umbilical or control line linked to the Nelson platform.		

1.6 Field Location Including Field Layout and Adjacent Facilities

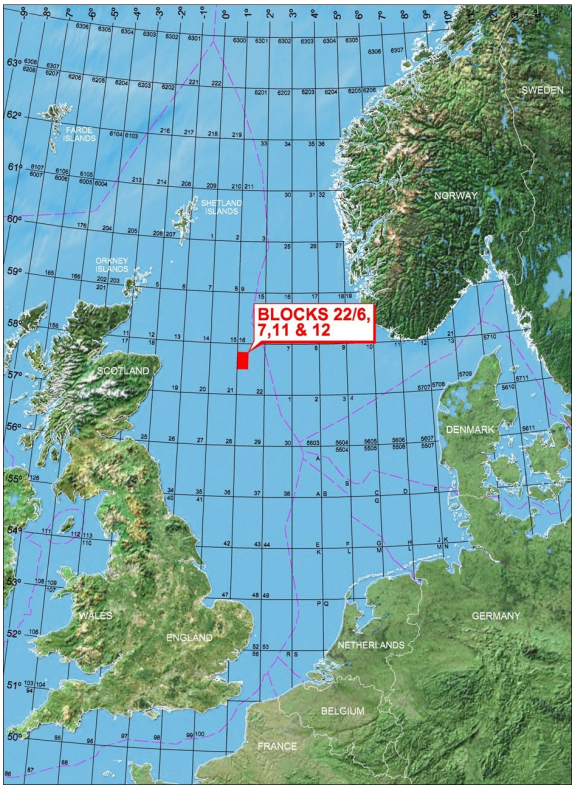

Figure 1.1: Field Location in UKCS

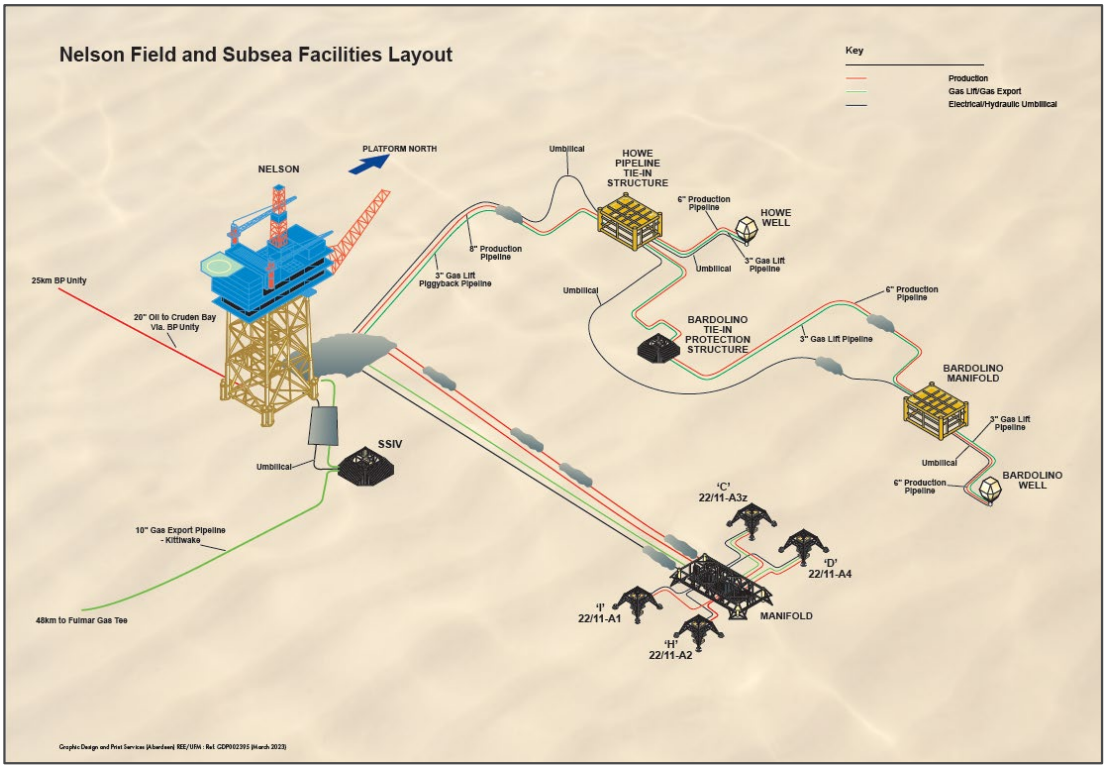

Figure 1.2: Field Layout

Table 1.4: Adjacent Facilities Information				
Operator/Owner	**Name**	**Type**	**Distance/Direction**	**Information/Status**
Enterprise Oil Limited	Nelson South	Subsea Cluster and Manifold	5.7 km SE	Operational
Impacts of Decommissioning Proposals on third party/adjacent facilities				
The proposed programme of work at Nelson will have no impact on the Nelson South subsea cluster or any other facility operated by Enterprise Oil Limited, Shell or any third-party Operator.				

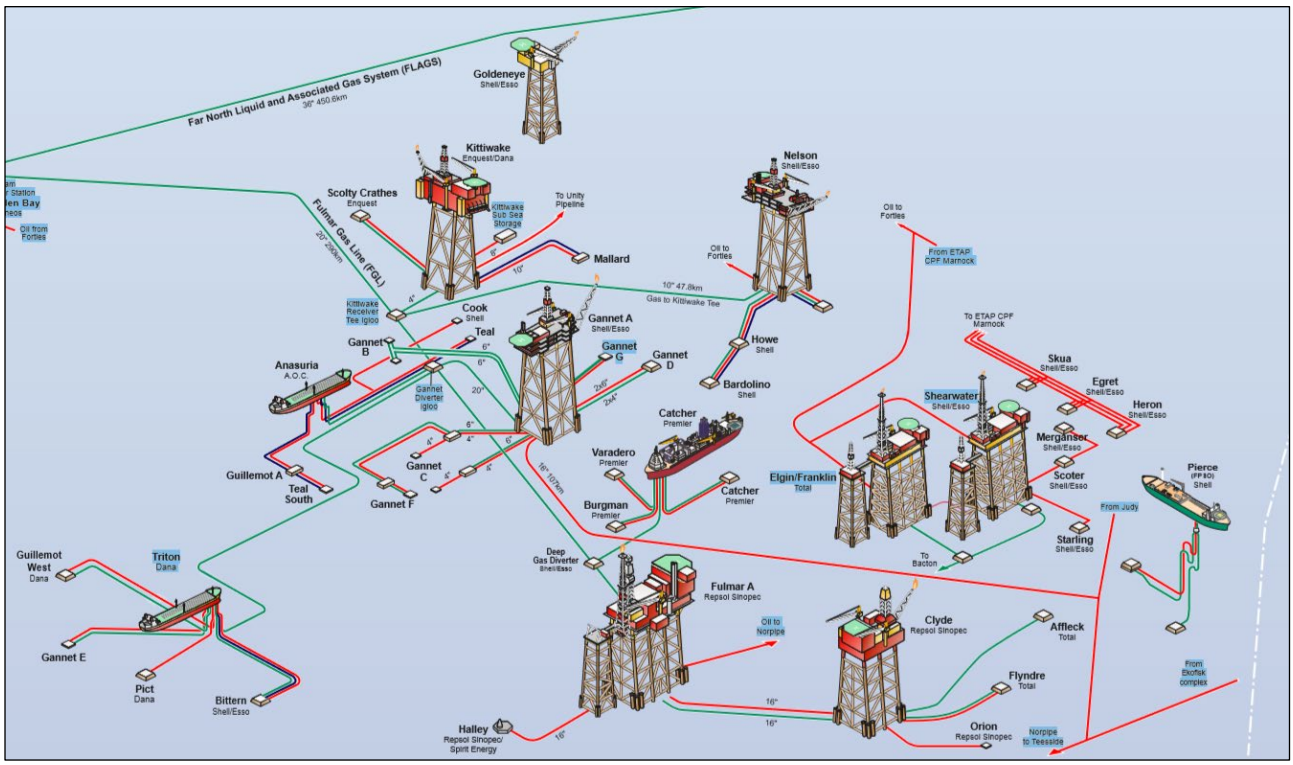

Figure 1.3: Adjacent Facilities

1.7 Industrial Implications

The Nelson Decommissioning Project seeks to identify a safe, efficient and cost-effective programme of work for decommissioning the derrick.

All procurement will be carried out in accordance with Shell standards for contract and procurement. Furthermore, in accordance with the North Sea Transition Authority's Supply Chain Action Plans Guidance, Shell will develop a Supply Chain Action Plan (SCAP) to be submitted in support of the main Nelson Decommissioning Programmes closer to Cessation of Production (CoP).

2 Description of Items to be Decommissioned

2.1 Nelson Derrick

Table 2.1: Surface Facilities Information				
Name	**Facility Type**	**Location**		**Description**
Nelson Alpha Platform	Derrick	WGS84 Decimal	53.108032 02.065629	The derrick is a steel lattice-work structure of welded construction approximately 70 m high, weighing approximately 1,452 tonnes. The derrick base is 10 m by 10 m tapering to 5.4 m by 5.4 m at the top.
		WGS84 Decimal Minute	57° 39' 46.353"N 01° 08' 44.029"E	

2.2 Items to be Decommissioned

The derrick on the Nelson A Installation comprises a skidbase, a substructure and a tower, inclusive of all primary, secondary and tertiary steelwork, as indicated by the dashed red lines in Figure 2.1 and Figure 2.2. All associated mechanical, piping and electrical and instrumentation (E&I) equipment will be dismantled and removed.

The dimensions of the three main components are shown in Table 2.2.

The bottom of the skidbase component of the derrick is located at a height of 40 m above LAT. Since the overall height of the derrick is 70.4 m, the top of the derrick is approximately 110 m above LAT.

These facilities were last used in 2014 and have been mothballed since then.

Table 2.2: Dimensions of Nelson Derrick			
Component	**Area dimensions (m)**	**Height (m)**	**Dry weight (tonnes)**
Tower Top	5.4 x 5.4	42.3	
Tower base	10.0 x 10.0		
Substructure	19 x 14.4	24.1	
Skidbase	23.4 x 10	4.0	
Totals		70.4	1,452

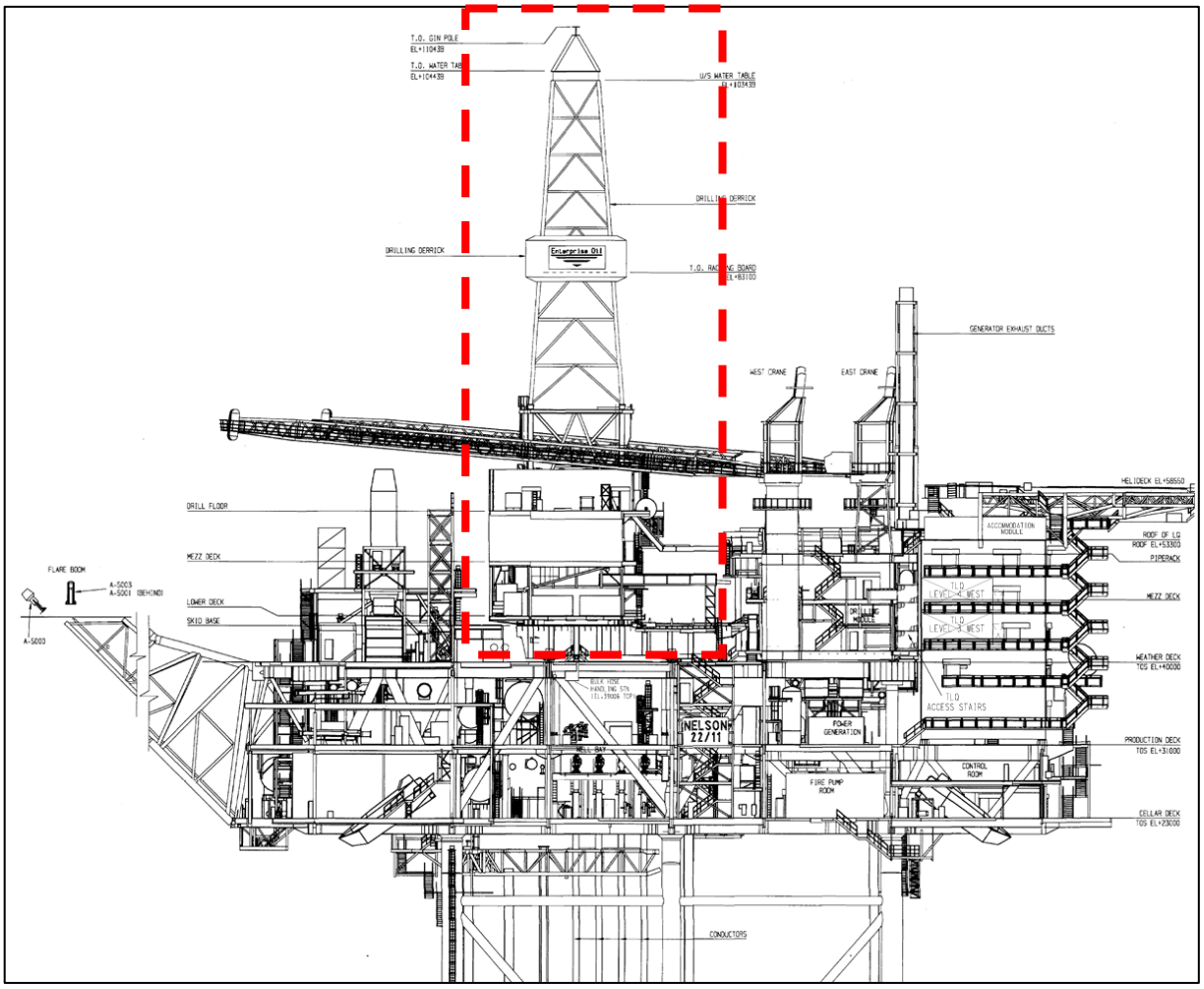

Figure 2.1: Nelson Platform: West Elevation showing the Derrick Structure

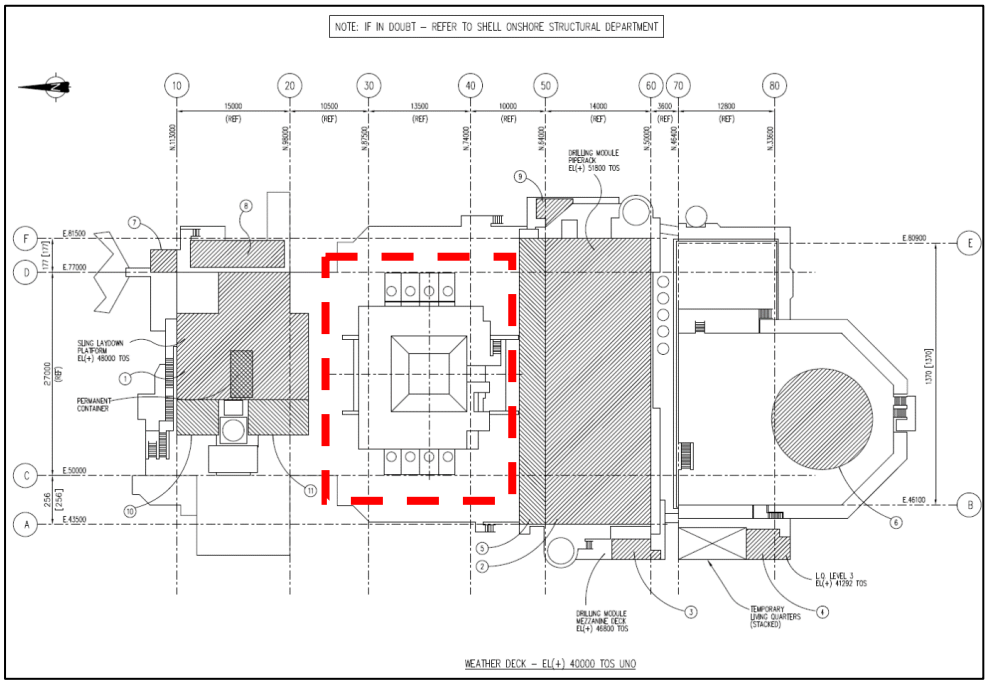

Figure 2.2: Nelson Platform: Plan of Weather Deck showing the Derrick Structure

2.3 Cleaning and Preparation

As part of the proposed programme of work, a detailed survey of the derrick will be performed to (i) confirm and update the materials inventory; and (ii) determine if there are any hazardous materials present.

The derrick components may be contaminated with residual amounts of hazardous substances such as drilling mud and cuttings, oils of various types, and possibly small amount of Naturally Occurring Radioactive Material (NORM).

All such materials will be located and quantified. Mobile contaminants will be removed before decommissioning begins, to ensure that they are not spilled or lost onto the topsides or into the sea. All such removal work will be carried out under Shell's procedures and all waste material will be returned to shore for treatment or disposal under all necessary licences.

Dismantled equipment and waste will be monitored for NORM according to Shell's Radiation Policy and Radiation Work Instructions. Where NORM is confirmed, a decision will be made as to whether it should be removed offshore or left on the drilling facilities and dealt with onshore. The preference would be for immobile NORM in the form of a scale to be left in place undisturbed and taken to shore where it can be dealt with more safely and efficiently. Items or areas with NORM or suspected NORM will be clearly marked, protected and segregated for shipment to ensure the safety of personnel during the decommissioning activities. Table 2.3 summarises the proposed offshore, pre-lift cleaning programme.

Table 2.3: Nelson Derrick Offshore Cleaning Programme

Material	Proposed Cleaning
Drilling muds and drilling fluids	We will confirm that all pipes, tanks and vessels in the derrick scope were drained and flushed in preparation for mothballing in 2014. If residual fluids are found, the system(s) will be drained and flushed. Any recovered drilling muds and other fluids will be used elsewhere or returned to shore for re-use or safe disposal
Hydrocarbons	The systems are not pressurised and no venting to atmosphere will be necessary. There are no hydrocarbons in the derrick.
Paint coating	Samples of paint will be taken and analysed before offshore dismantling begins. Piece-small dismantling will use cold cutting methods and we do not expect that hot cutting will be required offshore. However, steel with lead-based paints may give off dust if flame-cutting or grinding/blasting were required, and in such circumstances appropriate safety measures will be taken. Any such paint will not be removed offshore but will be dealt with appropriately by the onshore dismantling facility.

Table 2.3 concluded: Nelson Derrick Offshore Cleaning Programme		
Asbestos and Ceramic Fibre	The pre-dismantling survey will identify if such hazardous materials are present. If found, appropriate control and management will be enforced. These materials would be marked, contained, and left in situ and returned to shore to be dealt with appropriately by the licensed onshore dismantling facility.	
Other hazardous materials	Batteries	Transported to shore for re-use/disposal by appropriate methods.
	NORM, LSA Scale	In compliance with Shell's Radiation Policy and Radiation Work Instructions, all equipment and waste arising from this scope will be monitored for NORM contamination. Any confirmed or suspected NORM contamination will be managed in accordance with the Environmental Authorisations (Scotland) Regulations 2018 permit held by the Nelson Facility and Shell's Radiation Work Instructions. Confirmed NORM will either be removed offshore or left in situ to be cleaned and removed by the licensed onshore dismantling / recycling facility.
	Radioactive sources	There are no known radioactive sources on the derrick.

2.4 Derrick Inventory

This section assumes that all the above cleaning operations have been successfully carried out and therefore describes the materials that will be dismantled and removed in the derrick decommissioning programme. The derrick weighs approximately 1,452 tonnes, which represents about 6.7% of the total operational weight of the Nelson topsides (21,831 tonnes).

A provisional inventory of materials has been prepared based on preliminary surveys of the derrick. The majority of material (at least 75% by weight) is carbon steel and other ferrous metals. The items currently categorised as 'electrical equipment' and 'drill floor and other equipment' will also contain steel and other metals. Some amounts of rubber, plastic and other synthetic materials may also be present.

On completion of onshore dismantling and waste treatment, the close-out report will present a post-decommissioning inventory which will detail the exact amounts of material received and processed.

Table 2.4: Nelson Derrick Provisional Inventory

Material	Estimated Weight (tonnes)
High Grade Carbon Steel	680
Ferrous Metals	280
Carbon Steel	85
Stainless Steel	70
Electrical Cables	82
Electrical Equipment	43
Drill Floor and Other Equipment	212
Estimated Total Mass	1,452

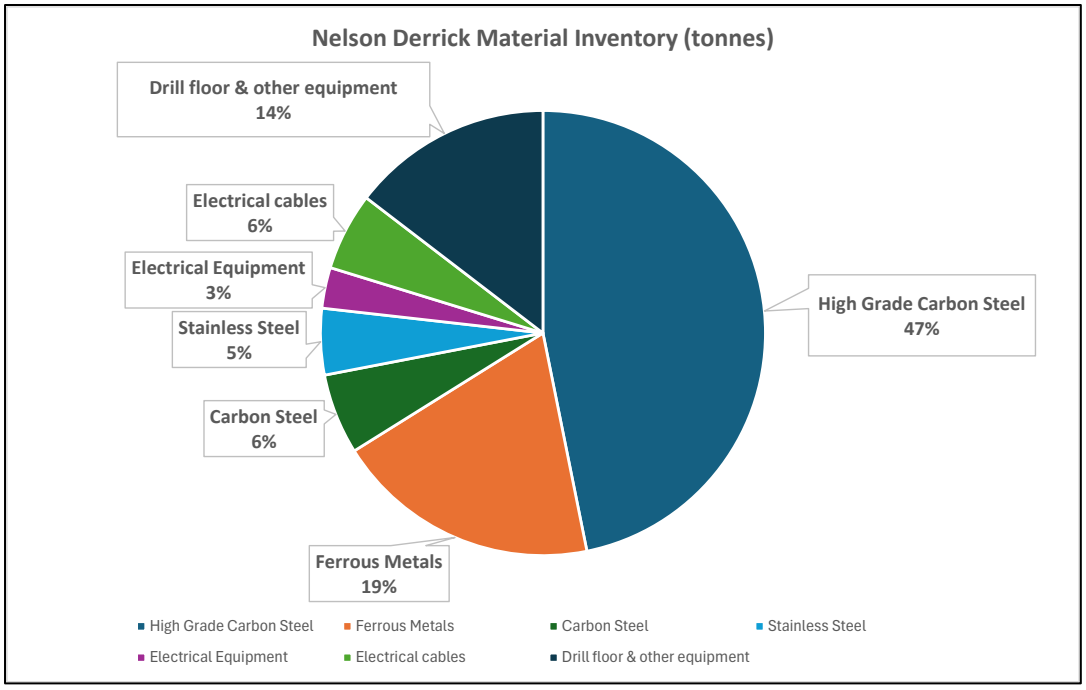

Figure 2.3: Nelson Derrick Provisional Inventory – Estimated Weight of Different Materials

3 REMOVAL AND DISPOSAL METHODS

3.1 Introduction

The programme of work to prepare and remove the derrick will be carefully planned to ensure that it can be safely completed on a producing platform. Planning work will include:

- Preparing a detailed plan for the sequences of cutting and lifting.
- Specific assessments of the number, locations and sequences for all the cuts.
- Specific assessments of how the structural integrity of the derrick, and the topsides in general, will be affected by the progressive removal of the derrick.
- Updating the platform's Safety Case.
- Conducting a HAZID of proposed activities.
- Examining potential issues arising from SIMOPS on the platform.
- Readiness and training for existing platform personnel, even if they are not engaged in the decommissioning work.
- Onboarding and familiarisation for new or contractor personnel who will be working on decommissioning the derrick offshore.

3.2 Preparation of Derrick

The derrick and its immediate surroundings will be surveyed and inspected. Individual loose items and equipment that can be safely removed will be taken away. Checks will be completed to ensure that no part of the derrick is pressurised, and that it has been isolated from the platform's supplies of electricity, oil and water.

A survey will be completed to identify and locate potentially hazardous and noxious materials and substances, including NORM. Throughout dismantlement, Shell will continue to monitor for hazardous substances as new surfaces are exposed. Any newly identified hazardous waste will be appropriately assessed, marked, isolated, segregated, quarantined and treated prior to shipment for recycling or disposal.

3.3 Removal Programme

The derrick will be removed by cutting it into sections offshore in a process commonly referred to as "piece-small" dismantling.

Where feasible, sections or components will be separated by unbolting. Otherwise, steel will be cut by "cold" cutting methods. Suitable specially-designed lifting eyes may be welded onto sections for lifting.

Sections and components will be lifted away by the platform's cranes. In preparation for this programme of work, the cranes have been surveyed by a specialist contractor. Recommendations have been made concerning maintenance and additional inspection during the period of increased crane usage associated with decommissioning activities.

Shell will utilise the existing materials handling processes on the Nelson Platform to manage the storage, transportation and recycling / disposal of waste arising from the dismantlement. Removed sections will be loaded onto suitable supply vessels, seafastened and taken to the licensed onshore recycling facility.

The sequence of operations will be carefully planned and managed to ensure that the structural integrity of the work area and topsides is not compromised.

Table 3.1: Derrick Removal Methods	
1) HLV (semi-submersible crane vessel) ☐ 2) SLV ☐ 3) Piece-small ☑ 4) Other ☐	
Method	**Description**
Piece-Small Removal	Offshore, the derrick will be dismantled or cut into a number of smaller pieces. These will be back-loaded onto normal supply vessels and transported to an ASCO facility for further cleaning, dismantlement, re-use, recycling and / or disposal as appropriate.

3.4 Onshore Dismantling and Disposal

3.4.1 Programme of work

The derrick will be returned to the selected dismantling site in the UK. Material will be returned to shore on supply vessels and transferred to shore by crane.

Onshore, items will be dismantled and cut into smaller sections, using a combination of 'hot' and 'cold' cutting techniques. This work will result in all material being broken down and segregated into different waste streams that can be easily moved for further reuse, treatment or disposal. Throughout dismantlement, waste will be monitored for contaminants and hazardous material (e.g. NORM) as appropriate.

It is anticipated that onshore dismantling and final disposal will be completed within 6 months of receipt onshore.

3.4.2 Overall Approach and Management

The Waste Management Strategy for the Derrick Decommissioning Project is based on the waste hierarchy (avoid, re-use, recycle, recover energy, dispose) underpinned by the commitment to comply with legal requirements. All the derrick material will be returned to shore, and the Project will aim to maximise the amount that is re-used or recycled.

The Nelson Derrick Decommissioning Project will implement Shell's HSSE & SP Control Framework, with a waste management hierarchy that, in accordance with the EU Waste Framework Directive, optimises the re-use and recycling of waste and aims to minimise waste disposal. The risks associated with waste will be assessed before removal to shore and opportunities to re-use the waste for the same or other purposes or, failing that, to recycle or recover materials, will be identified. Waste will be characterised, classified, segregated, stored and transported according to appropriate regulatory requirements.

Material will be returned to shore via the existing operational waste processes on the Nelson Platform, using Shell's contractor ASCO.

The decommissioning contractor's established arrangements with recycling companies will facilitate optimisation of the quantity of materials that can be sent for recycling. An active project Waste Management Plan (WMP) will be implemented that tracks waste materials through to the recycling end points. Materials for which no re-use or recycling options are available will be tracked through to disposal in landfill.

3.5 Waste Streams

Table 3.2: Waste Stream Management Methods	
Waste Stream	**Removal and Disposal Method**
Bulk Liquids	Removed from vessels and transported to shore. Vessels, pipework and sumps will be drained prior to removal to shore and shipped in accordance with maritime transportation guidelines. Further cleaning and decontamination will take place onshore prior to recycling or re-use.
NORM/LSA Scale	Nelson holds an Environmental Authorisations (Scotland) Regulations 2018 permit for the storage and accumulation of NORM. As the material in the scope of this DP has not been subject to produced water, hydrocarbon or seawater service there is no expectation that waste arising will be contaminated with NORM. Nevertheless, all recovered material will be monitored for NORM contamination and, where encountered, managed in accordance with the Environmental Authorisations (Scotland) Regulations 2018. There are no known low-level radioactive sources on the derrick.
Asbestos	If asbestos is found, appropriate control and management will be enforced.
Other hazardous wastes	A desktop study will be performed to assess if other hazardous materials are likely to be present. Throughout offshore and onshore decommissioning operations, components will be monitored for the potential presence of hazardous materials.
Onshore Dismantling sites	Shell will utilise the existing materials control and waste processes on the Nelson Platform, and its existing waste disposal contract with ASCO. In compliance with Shell's Waste Control Framework, all existing waste contractors have been the subject of a Duty of Care audit by a Shell Waste Subject Matter Expert.

Table 3.3: Inventory Disposition			
	Total Inventory Tonnage	**Planned tonnage to shore**	**Planned left in situ**
Installations	**1,452**	**1,452**	**0**

4 ENVIRONMENTAL APPRAISAL OVERVIEW

4.1 Introduction

This section summarises the environmental sensitivities in the vicinity of the Nelson platform and considers the potential impacts associated with the proposed activities.

The Nelson derrick decommissioning programme of work will be undertaken wholly on the topsides of the platform, within an existing 500 m safety zone.

An ENVID (Environmental Impact Identification) was carried out which considered the planned programme of work and identified all the possible sources of impact. The results of the ENVID indicate that there would be no significant impacts as a result of the proposed activities. Environmental receptors in the area are summarised in Table 4.1. Potential environmental impacts and proposed management of impacts from any planned and unplanned events are summarised in Table 4.2. Table 4.3 lists other sources of impact that were not considered further.

Since 1991, 10 seabed environmental (benthic) surveys have been completed at Nelson, the most recent of which was in 2023.

Figure 4-1 shows the location of the Nelson A platform in relation to conservation areas.

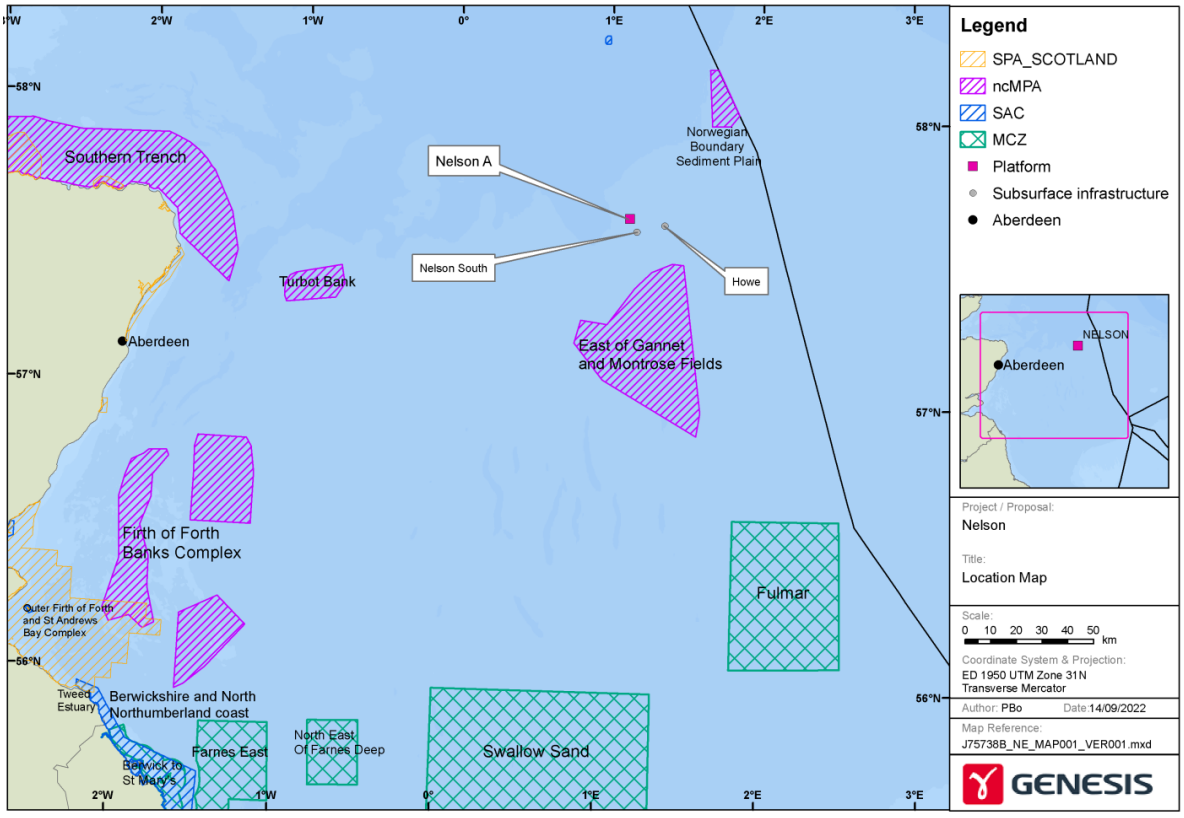

Figure 4-1: Location of Nelson A Platform in Relation to Conservation Areas.

4.2 Environmental Sensitivities

Table 4.1: Environmental Sensitivities	
Environmental Receptor	**Main Features**
Conservation Interests: Designated Sites	The closest protected site to the Nelson field is the East of Gannet and Montrose Fields Nature Conservation Marine Protected Area (NCMPA), located *c.* 23 km to the south. This site is designated for offshore deep-sea muds and *Arctica islandica* aggregations (including sands and gravels as their supporting habitat) (Joint Nature Conservation Committee (JNCC), 2020). The OSPAR Convention* designates offshore deep-sea muds as a habitat under threat and/or in decline, whilst *A. islandica* is also listed by OSPAR as being threatened and/or declining across the North-East Atlantic. Both deep-sea muds and *A. islandica* are considered Priority Marine Features (PMF) in Scotland (JNCC, 2014). Given the proposed Nelson A derrick decommissioning activities and the distance from the nearest conservation site, it is not expected that there would be any impacts on designated sites. **OSPAR Convention is the Convention for the Protection of the Marine Environment of the North-East Atlantic.*
Seabed Sediments and Habitats	As the proposed activities will not impact the seabed or its associated ecosystem, only a brief overview of the sediments and habitats at Nelson A is given here. A survey carried out at the Nelson Field in 2023 (Fugro, 2023) found the seabed sediments to be largely homogeneous and the main sediment type was muddy sand, with varying proportions of gravel and shell fragments. The sediment type was classified as the European nature information system (EUNIS) Level 3 habitat type 'Faunal communities of Atlantic offshore circalittoral sand' (MD521). Sediments in part of the Nelson survey area comprised gravelly, sandy mud with shell fragments, pebbles, cobbles and boulders, and were classified as the EUNIS biotope complex 'Atlantic offshore circalittoral mixed sediment' (MD42) (Fugro, 2023). The biotope complex 'Circalittoral mixed sediments' was listed as 'Vulnerable' on the European Red List of Habitats.
Fish	Several species of fish, including cod, lemon sole, mackerel, Norway pout, *Nephrops* and sandeels use the area as a spawning site. In addition, a number of species, including anglerfish, blue whiting, cod, haddock, hake, herring, ling, mackerel, *Nephrops,* Norway pout, plaice, sandeels, spotted ray, spurdog and whiting use the area as a nursery ground (Coull *et al*., 1998; Ellis *et al*., 2012). Some of these species are Scottish PMF, including anglerfish, herring, mackerel, cod, blue whiting, ling, Norway pout, sandeels, spurdog and whiting (JNCC, 2014).

Table 4.1: Environmental Sensitivities	
Environmental Receptor	**Main Features**
	Given that the proposed activities will not result in discharges to the water column or disturbance to the seabed, no significant impact on fish is expected.
Fisheries	The Nelson A platform is located within International Council for the Exploration of the Sea (ICES) rectangle 44F1. In 2022, commercial fishery landings from rectangle 44F1 accounted for 0.2% of the total value (£) and 0.1% of the total weight (te) of UK landings. Demersal species were the dominant species type landed (tonnes) in ICES 44F1 in 2022, but shellfish landings were the most valuable. Trawls were the most dominant gear type used in 44F1, with remaining contributions from seine nets (Marine Scotland, 2023).
Marine Mammals	Cetacean species which may use the Nelson area throughout the year include harbour porpoise, minke whale, white-beaked dolphin and Atlantic white-sided dolphin. There is also a small possibility that fin whales might be found in the area (Reid *et al*., 2003). Seal distribution maps indicate that seals are unlikely to be found in the Nelson area (Carter *et al*., 2022). However, aerial surveys carried out in support of the Cenos Offshore Windfarm Scoping Report (Flotation Energy, 2023) identified low numbers of grey seals in the area of the East of Gannet and Montrose Fields NCMPA. This finding could be taken to suggest that grey seals could also occur in the Nelson area. Under the Conservation of Habitats and Species Regulations 2017 (as amended) all cetaceans are European Protected Species (EPS) and are protected regardless of their location. In addition, harbour porpoise and grey seal are also considered to be Annex II species. All species identified are also PMFs in Scotland. Given the scope of the proposed activities, it is not anticipated that there will be significant impacts on marine mammals.
Birds	The offshore distribution and abundance of seabirds varies over the year. Bird species seen in the area include northern fulmar, razorbill and puffin. Over both the winter months (November – March) and the breeding/summer months (April – October), seabird densities in the Nelson area range from 0-15 individuals per km^2. The majority of species are present at densities of ≤1 – 10 individuals per km^2 throughout both seasons. Birds are not known to nest on the Nelson A derrick, and the proposed activities are not expected to have a significant impact on birds.
Onshore Communities	No onshore community sensitivities that would be impacted by the proposed activities have been identified.
Other Users of the Sea	The density of shipping in the Nelson area ranges from 0 hours per km^2 per month to 10 hours per km^2 per month (EMODnet, 2023).

Table 4.1: Environmental Sensitivities	
Environmental Receptor	**Main Features**
	The closest platform is the Forties Echo platform located *c*. 9 km northwest of the Nelson cluster. The closest operational wind farm is the Hywind Scotland wind farm located off the coast of Peterhead, over 100 km west of the Nelson area. The Nelson cluster is located *c*. 24 km south of the closest successful Innovation and Targeted Oil & Gas (INTOG) site. Given the scope of the activities, the existing 500 m safety zone around the Nelson A platform, and the distance from other installations, it is not anticipated that there would be any significant impact on other sea users.
Atmosphere	The main source of atmospheric emissions associated with the proposed activities will be the use of vessels. These emissions have the potential to impact local air quality and to contribute to global warming. Given the offshore location, the impacts on local air quality are not expected to be detectable above current background levels due to the limited number of vessels associated with the proposed programme of work. Concern regarding the emission of greenhouse gasses (GHGs) is focused on the impact they have on global climate change. The additional CO_2 emissions associated with the proposed vessel use are estimated to be 1,516 te (based on 47 vessel days with a fuel use of 10 te per day in transit). Consequently, because of the short duration of the offshore vessel campaign, any additional use of vessels will result in a minimal contribution to global warming.

4.3 Potential Environmental Impacts and their Management

An ENVID was carried out which examined the planned programme of work and identified all the possible sources of impact. The results of the ENVID indicate that there would be no significant impacts as a result of the proposed activities. Potential impacts from planned and unplanned events are summarised in Table 4.2. Table 4.3 lists other sources of impact that were not considered further.

Table 4.2: Potential Impacts from Planned and Unplanned Events		
Activity	**Main Impacts**	**Management of Impacts**
Nelson Derrick Removal	**Emissions to Air** Emissions of CO_2, NOx, N_2O, VOCs, CO and SO_2 associated with vessel operations will contribute to a reduction in air quality and impact on climate change.	• Minimise vessel use through efficient journey planning. • Minimisation of emissions from vessels forms part of Shells' selection criteria when tendering and selecting execution vessels. • Vessels will be required to have a Shipboard Energy Efficiency Management Plan (SEE) in place.
	Nesting Birds	• Nesting birds have not previously been identified on the Nelson derrick, so the proposed activities are not expected to impact birds.
	Waste Generation Recovered material will be classed as waste	• The derrick materials will be managed in line with the waste hierarchy and as they primarily comprise steel, it is expected that over 97% of recovered material (by weight) will be recycled. • Only licensed waste management contractors will be contracted to handle, store, recycle and dispose of any waste generated by the proposed activities. • The fate of all waste materials will be tracked in accordance with Shell's Waste Control Framework – i.e. up to the point where materials can no longer be traced as Shell's waste. Typically, this will be the point at which the waste is delivered to a smelter or similar recycling facility or, where recycling/re-use is not possible, at the point of disposal.
	Unplanned/Accidental Events Worst case accidental events during the proposed activities would be a loss of diesel inventory from the vessels.	Preventing / minimising probability of an event: The vessel(s) utilised in the decommissioning programme will be subject to vessel assurance as per Shell's Global Maritime Assurance System (GMAS) verification. Reducing consequences: A tiered system of responses is identified in the Nelson Field System Oil Pollution Emergency Plan (OPEP) including mobilisation of the Onshore Emergency Response Team, aerial surveillance or the mobilisation of Offshore Mechanical Containment and Recovery, as appropriate.

Table 4.2: Potential Impacts from Planned and Unplanned Events		
		<u>Potential impact of diesel spill from vessel:</u> The potential hydrocarbon spill scenarios resulting from production operations in the Nelson Field have been assessed as part of the modelling in the current Nelson OPEP. The modelling included stochastic modelling for the instantaneous release of 2,695 m^3 of diesel from an in-field vessel. The OPEP concluded that diesel is a non-persistent hydrocarbon and therefore its residence in the marine environment is low. Under worst case conditions, the diesel trajectory results show that the spill will not reach the UK shoreline or any mainland coastline, but there is up to 6% probability of it crossing the UK/Norwegian median line within 34 hours in winter and up to 12% probability of it crossing the UK/Norwegian median line within 62 hours in summer. An approved OPEP for the Nelson Field System has been developed in accordance with the Merchant Shipping (Oil Pollution Preparedness, Response and Co-operation Convention) Regulations 1998 and the Offshore Installations (Emergency Pollution Control) Regulations 2002. The OPEP details the actions to be taken in the event of a spill as well as the resources available to deal with it, including dispersants available on the standby vessel and membership of Oil Spill Response Limited (OSRL). The designated response measures will significantly reduce potential beaching. Given the existing mitigation measures, the likelihood of a fuel inventory loss from a vessel is considered Remote.

Table 4.3: Possible Sources of Impact Excluded from Further Consideration	
Event	**Reason for Exclusion**
Vessel Noise	Marine mammals in the North Sea are acclimatised to the presence of vessels. Given the size and weight of the derrick, only a small amount of additional vessel time will be required to remove waste material to shore. Any impacts on marine mammals will be of short duration and not considered significant. There are no other sources of underwater noise associated with the proposed scope.
Seabed Disturbance	The scope of work does not result in any impact on the seabed. The vessels used to transport the derrick to shore will not require to deploy anchors at the offshore location.
Impact to Other Users of the sea	The proposed activities will take place within an existing 500 m safety zone, an area not frequented by other sea users.

5 INTERESTED PARTY CONSULTATIONS

Initial contact has been made with OPRED Offshore Decommissioning Unit (ODU) and the Health and Safety Executive (HSE).

Formal engagement with statutory consultees will begin on submission of the draft DP to OPRED.

Table 5-1: Summary of Stakeholder Comments

Who	Comment	Response
1. Informal Stakeholder Consultations		
2. Public		
3. Statutory Consultations		
National Federation of Fishermen's Organisations		
Scottish Fishermen's Federation		
Northern Ireland Fish Producers Organisation		
Global Marine Group		
North Sea Transition Authority		

6 PROGRAMME MANAGEMENT

6.1 Project Management and Verification

A Project Management team has been appointed to manage suitable (sub)contractors for the dismantling and removal activities. Standard Shell procedures for operational control, hazard identification and hazard management will be used. Where possible the work will be co-ordinated with other decommissioning operations in the North Sea to secure schedule and cost efficiencies.

The processes of obtaining the consents and completing the consultations required for this project have commenced and will be fully managed and monitored throughout the project's life.

If any changes to the offshore removal programme are required, these will be discussed and agreed with OPRED in advance.

As required by the BEIS (DESNZ) Guidance Notes, the United Kingdom Hydrographic Office will be notified of any aspect of the programme that would have implications for navigation around the Nelson A platform.

6.2 Post-Decommissioning Debris Clearance and Verification

No post-decommissioning debris clearance is proposed at this time, for the following reasons:

1. All the work will be carried out on the topsides.
2. Any potential impact to the seabed would be from unplanned dropped objects. These would be closely observed and subject to a PON2 submission, with the opportunity to conduct remediation or subsequent targeted monitoring and evaluation, if warranted.
3. The later DP for the Nelson A installation will include a post-decommissioning survey of debris and its clearance.

6.3 Schedule

The offshore programme of work is due to begin in April 2025 and to be completed no later than October 2025.

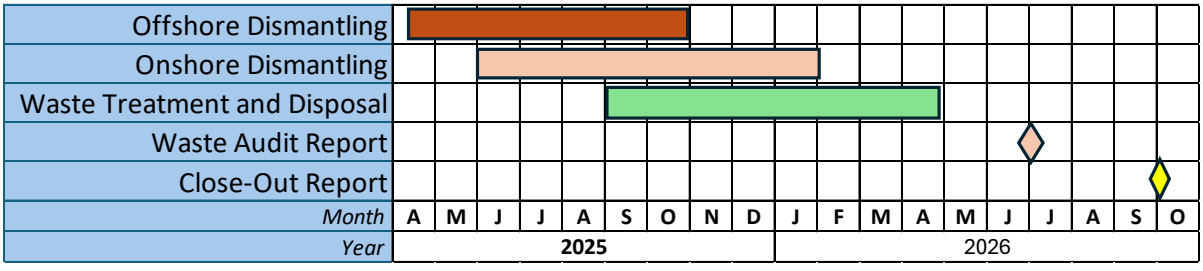

Figure 6.1: GANTT Chart of Project Plan for Nelson Derrick Decommissioning

6.4 Costs

At the time of public consultation, a 'commercial – in confidence' version of this document will be submitted to OPRED, providing the estimated costs of the Nelson Derrick decommissioning in the format of Offshore Energy UK's (OEUK) Work Breakdown Structure (WBS).

Table 6-1: Provisional Decommissioning Programme Cost

Item	Estimated Cost (£m)
	Provided to OPRED
	Provided to OPRED
	Provided to OPRED
	Provided to OPRED

6.5 Close Out

In accordance with the BEIS (DESNZ) Guidance Notes, a Close Out Report will be submitted to OPRED within 12 months of completion of the offshore decommissioning programme of work.

6.6 Post-Decommissioning Monitoring and Evaluation

No post-decommissioning monitoring is proposed at this time, for the following reasons:

1. All the work will be carried out on the topsides.
2. Any potential impact to the seabed would be from either unplanned spills or discharges, or dropped objects. These would be closely observed and subject to a PON1 submission (for releases) or a PON2 submission (for dropped objects), with the opportunity to conduct remediation or subsequent targeted monitoring and evaluation, if warranted.
3. The later DP for the whole Nelson platform will include a post-decommissioning debris sweep and monitoring programme.

7 SUPPORTING DOCUMENTS

Table 7.1: Supporting Documents

Ref	Title
[1]	The Petroleum Act 1998
[2]	BEIS (DESNZ) Guidance Notes - Decommissioning of Offshore Oil and Gas Installations and Pipelines November 2018
[3]	Environmental Monitoring Survey Nelson A UKCS Blocks 22/6a, 22/7, 22/11 and 22/12a. Issued 25 August 2015. Fugro-EMU Report J/1/25/2366
[4]	Shell CNS Summer Surveys 2023: Nelson A, UKCS Blocks 22/11a and 22/6a: Volume 14 of 19 Environmental Baseline Survey Report. Draft Issued 5 December 2023. Fugro Document 230102V14
[5]	JNCC. (2020). East of Gannet and Montrose Fields NCMPA. Available at: https://jncc.gov.uk/our-work/east-of-gannet-and-montrose-fields-mpa/
[6]	Joint Nature Conservation Committee (JNCC) (2014). Priority Marine Features in Scotland's seas. Available from: http://jncc.defra.gov.uk/page-6052
[7]	Fugro (2023). Environmental Baseline Survey Report Nelson A, UKCS Blocks 22/11a and 22/6a. Fugro Document reference no. 230102V14
[8]	Coull, K., Johnstone, R. and Rogers, S. I. (1998). Fisheries Sensitivity Maps in British Waters, Available from https://www.cefas.co.uk/media/52612/sensi_maps.pdf : UKOOA Ltd.
[9]	Ellis, J.R., Milligan, S., Readdy, L., South, A., Taylor, N. and Brown, M. (2012). Spawning and nursery grounds of select fish species in UK Waters, Sci. Ser. tech. Rep. Cefas Lowestoft, 147:56 pp, Available from: https://www.cefas.co.uk/publications/techrep/TechRep147.pdf.
[10]	Ellis, J.R., Milligan, S., Readdy, L., South, A., Taylor, N. and Brown, M. (2012). Spawning and nursery grounds of select fish species in UK Waters, Sci. Ser. tech. Rep. Cefas Lowestoft, 147:56 pp, Available from: https://www.cefas.co.uk/publications/techrep/TechRep147.pdf.
[11]	Aires, C., Gonz lez-Irusta, J. and Watret, R. (2014). Updating Fisheries Sensitivity Maps in British Waters, Scottish Marine and Freshwater Science Report. Vol 5 No 10: Marine Scotland ISSN: 2043-7722.
[12]	Marine Directorate, Scottish Government (2023). 2022 Scottish Sea Fisheries Statistics - Fishing Effort and Quantity and Value of Landings by ICES Rectangles. doi: 10.7489/12474-1
[13]	Reid, J., Evans, P. and Northridge, S. (2003). Atlas of Cetacean distribution in north-west European waters., Available from http://jncc.defra.gov.uk/page-2713
[14]	Carter, M.I., Boehme, L., Cronin, M.A., Duck, C.D., Grecian, W.J., Hastie, G.D., Jessopp, M., Matthiopoulos, J., McConnell, B.J., Miller, D.L. and Morris, C.D., 2022. Sympatric seals, satellite tracking and protected areas: habitat-based distribution estimates for conservation and management. Frontiers in Marine Science, 9, p.875-869

[15]	Flotation Energy (2023). Cenos Offshore Windfarm Scoping Report. February 2023. Available for download from https://marine.gov.scot/node/23676.
[16]	EMODnet (2023). EMODnet Human Activities, Vessel Density Map. Available at: https://emodnet.ec.europa.eu/geonetwork/srv/eng/catalog.search#/metadata/0f2f3ff1-30ef-49e1-96e7-8ca78d58a07cFugro (2015). Penguin FPSO Project, UKCS Block 211/14, Habitat Assessment Desktop Study. Report number: 140605-65V1.5
[17]	IPCC (2021). Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S.L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M.I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T.K. Maycock, T. Waterfield, O. Yelekçi, R. Yu, and B. Zhou (eds.)]. In Press.

These documents are available as follows:

1. At the Shell website at https://www.shell.co.uk/sustainability/decommissioning.html
2. Electronic copies may be requested by emailing SUKEP-Shell-Decommissioning-Correspondence@shell.com or writing to Decommissioning Business Opportunity Manager, Decommissioning Strategy, Shell U.K. Limited, The Silver Fin Building, 455 Union Street, Aberdeen, AB11 6DB.

8 SECTION 29 NOTICE HOLDERS' LETTERS OF SUPPORT

Letters of support from the Section 29 Notice Holders will be included in the final version of this DP.

APPENDIX 1 – PUBLIC NOTICE

The Petroleum Act 1998

Nelson Derrick Decommissioning Programme

A copy of the Public Notice will be appended to the final version of this DP.