PERENCO UK LIMITED
Leman 49/27J Jacket & Pipeline PL207 Decommissioning Programmes

October 2025

Consultation Version

Document Control

Approvals

	Name	Signature / Initials	Date
Prepared by	Neil Mearns, Decommissioning Compliance Advisor		
Reviewed by	Oliver Felmingham, Decommissioning Manager		
Approved by	Jonathan White, PUK General Manager		

Revision Control

Revision No.	Description of Revision		Date
D01	Draft	Draft compilation for internal review	22/01/25
V01	Version 1	Initial Draft to OPRED	13/02/25
V02	Version 2	OPRED comments included	13/05/25
V03	Version 3	OPRED comments included, and the whole length of PL207 added.	12/08/25
V04	Version 4	OPRED comments included	17/09/25
V05	Consultation Version	OPRED comments included. Consultation Version issued.	03/10/25

Distribution List

Name/Title	Company	No. of Copies
Senior Decommissioning Manager	Offshore Petroleum Regulator for Environment & Decommissioning (OPRED)	1
Operations Coordinator	National Federation of Fishermen's Organisations (NFFO)	1
Managing Director	The Scottish Fishermen's Federation (SFF)	1
Chief Executive Officer	Northern Ireland Fish Producers' Organisation (NIFPO)	1
Permitting Manager	Global Marine Systems Limited	1
WoS Asset Manager	RockRose UKCS15 Limited / RockRose UKCS 10 Limited	1
NS Financial Advisor	Amoco (U.K.) Exploration Company, LLC / Amoco U.K. Petroleum Limited	1

Name/Title	Company	No. of Copies
Senior Commercial Manager	Apache Beryl I Limited	1
Legal & Commercial	BG International Limited / Enterprise Oil Limited	1
Legal	Hess Limited	1

Contents

1. EXECUTIVE SUMMARY 8
1.1 Combined Decommissioning Programmes 8
1.2 Requirement for Decommissioning Programmes 8
1.3 Introduction 8
1.4 Overview of Installation Being Decommissioned 10
1.4.1 Jacket(s) 10
1.4.2 Pipeline(s) 11
1.5 Summary of Proposed Decommissioning Programmes 12
1.6 Field Location Including Field Layout and Adjacent Facilities 14
1.7 Industrial Implications 17
2. DESCRIPTION OF ITEMS TO BE DECOMMISSIONED 18
2.1 Installation: Surface Facilities (Jacket) 18
2.2 Pipelines Including Stabilisation Features 18
2.3 Wells 19
2.4 Drill Cuttings 19
2.5 Inventory Estimates 20
3. REMOVAL AND DISPOSAL METHODS 21
3.1 Jackets 21
3.1.1 Jacket Decommissioning Overview 21
3.1.2 Jacket Removal Methods 22
3.2 Pipelines 23
3.3 Pipelines Stabilisation Feature(s) 23
3.4 Waste Streams 24
4. ENVIRONMENTAL APPRAISAL OVERVIEW 25
4.1 Environmental Sensitivities (Summary) 25
4.2 Potential Environmental Impacts and their Management 28

5. INTERESTED PARTY CONSULTATIONS 32

6. PROGRAMME MANAGEMENT 33

6.1 Project Management and Verification 33

6.2 Post-Decommissioning Debris Clearance and Seabed Clearance Verification 33

6.3 Schedule 33

6.4 Costs 35

6.5 Close Out 35

6.6 Post-Decommissioning Monitoring and Evaluation 35

7. SUPPORTING DOCUMENTS 36

8. SECTION 29 NOTICE HOLDERS' LETTERS OF SUPPORT 37

9. APPENDICES 38

Figures and Tables

Tables

Table 1.1: Jacket Being Decommissioned 10
Table 1.2: Jacket Section 29 Notice Holders Details 10
Table 1.3: Pipeline(s) Being Decommissioned 11
Table 1.4: Pipeline Section 29 Notice Holders Details 11
Table 1.5: Summary of Decommissioning Programmes 12
Table 1.6: List of Adjacent Facilities 16
Table 2.1: Surface Facilities Information 18
Table 2.2: Pipeline/Flowline/Umbilical Information 18
Table 2.3: Subsea Pipeline Stabilisation Features 18
Table 2.4: Well Information 19
Table 2.5: Drill Cuttings Pile(s) Information 19
Table 3.1: Jacket Removal Methods 23
Table 3.2: Pipeline or Pipeline Groups Decommissioning Options 23
Table 3.3: Pipeline Stabilisation Feature(s) 23
Table 3.4: Waste Stream Management Methods 24
Table 3.5: Inventory Disposition 24
Table 4.1: Environmental Sensitivities 25
Table 4.2: Environmental Impact Management 29
Table 5.1: Summary of Stakeholder Comments 32
Table 7.1: Supporting Documents 36

Figures

Figure 1.1: Field Location in UKCS 14
Figure 1.2: Field Layout 15
Figure 1.3: Adjacent Facilities 17
Figure 2.1: Pie Chart of Estimated Inventory (Jacket) 20
Figure 2.2: Pie Chart of Estimated Inventory (Pipeline) 20
Figure 3.1: Jacket Elevation 22
Figure 6.1: Gantt Chart of Project Plan 34

Appendices

Appendix 1: Protected Areas in the Vicinity of the Leman Field 38
Appendix 2: Leman 27J Bird Survey 2025 39

Terms and Abbreviations

Abbreviation	Explanation
°	Degree
“	Inch
%	Percentage
AB2	Abandonment Phase 2
AB3	Abandonment Phase 3
AtoN	Aids to Navigation
BGT	Bacton Gas Terminal
CA	Comparative Assessment
CoP	Cessation of Production
DESNZ	Department for Energy Security and Net Zero
DP	Decommissioning Programme
E&A	Exploration & Appraisal
EA	Environmental Appraisal
EBS	Environmental Baseline Survey
EC	European Commission
EL	Elevation
EU	European Union
EUNIS	European Nature Information System
HAS	Habitat Assessment Survey
HCS	Hydrocarbon Safe
HLV	Heavy Lift Vessel
HSEx	Health and Safety Executive
IWS	International Waste Shipment
km	Kilometre
km²	Square Kilometre
LAT	Lowest Astronomical Tide
LSA	Low Specific Activity
m	Metre
MARPOL	The International Convention for the Prevention of Pollution from Ships
N/A	Not Applicable
NFFO	National Federation of Fishermen’s Organisations

Abbreviation	Explanation
NIFPO	Northern Ireland Fish Producers' Organisation
NORM	Naturally Occurring Radioactive Material
NSTA	North Sea Transition Authority
NUI	Normally Unattended Installation
OEUK	Offshore Energies UK
OPRED	Offshore Petroleum Regulator for Environment & Decommissioning
OSPAR	The Convention for the Protection of the Marine Environment of the North-East Atlantic
P&A	Plug and Abandonment
Perenco	Perenco UK Limited
PL	Pipeline
RAT	Rope Access Technician
ROV	Remotely Operated Vehicle
S29	Section 29 Notice Holder
SAC	Special Area of Conservation
SFF	The Scottish Fishermen's Federation
SLV	Single Lift Vessel
SNS	Southern North Sea
SOPEP	Ship Oil Pollution Emergency Plan
SSS	Side Scan Sonar
Te	Tonne
UK	United Kingdom
UKCS	United Kingdom Continental Shelf

1. EXECUTIVE SUMMARY

1.1 Combined Decommissioning Programmes

This document contains two decommissioning programmes (DPs) for the Leman 27J Jacket and pipeline PL207, including the riser section that is attached to the Leman 27J jacket and the rest of the pipeline that terminates at the tee junction on PL206.

These DPs do not include a programme for the 27J topside. It was decommissioned under the Leman 27H & Leman 27J Topsides DP that was approved by The Department for Energy Security and Net Zero (DESNZ) on 25th April 2024. It also does not include the decommissioning of the Leman 27H to Leman 27A pipeline (PL206), which will be covered under a separate pipeline DP.

1.2 Requirement for Decommissioning Programmes

Jacket: In accordance with the Petroleum Act 1998, the S29 notice holders of the Leman 27J jacket (see Table 1.2) are applying to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) to obtain approval for decommissioning the jacket detailed in Section 2.1 of these programmes, (see also Section 8 - Section 29 Notice Holders Letter(s) of Support).

Pipelines: In accordance with the Petroleum Act 1998, the Section 29 notice holders of the PL207 (see Table 1.4) are applying to OPRED to obtain approval for decommissioning the pipelines detailed in Section 2.2 of these programmes. (See also Section 8 – Section 29 Notice Holders Letter(s) of Support).

In conjunction with public, stakeholder and regulatory consultation, the DPs are submitted without derogation and in compliance with national and international regulations and OPRED guidelines. The schedule outlined in this document is for a 4-year decommissioning project plan due to begin in Q1 2026.

1.3 Introduction

These Decommissioning Programmes explain the principles of the removal activities and are supported by an Environmental Appraisal (EA).

Leman 27J is located in the United Kingdom Continental Shelf (UKCS) in Block 49/27, approximately 53km from the northeast of Bacton Gas Terminal (BGT), off the coast of East Anglia. Its coordinates are WGS84 Latitude: 53° 01' 54.9164" N and Longitude: 02° 13' 04.2255"E.

The Leman field, Block 49/26, was discovered by Shell in 1965. The 49/27 block was then tested and appraised by Amoco in 1966 with production coming online in 1968. Leman field utilises 16 development platforms, of which 9 installations are now operated by Perenco, as shown in Figure 1.2. The Leman 27J wells (49/27-J1,49/27-J2, 49/27-J3, 49/27-J4 and 49/27-J5) were developed between September 1983 to February 1984, with production starting in July 1984. Perenco acquired BP's share in the Leman field on 1st January 2003.

Leman 27J (Licence Number: P16) extracted natural gas and condensate from the subsea reservoir and exported it via a 16" pipeline (PL207), that joins a 20" subsea pipeline (PL206), to Leman 27A. Produced gas and condensate received at Leman 27A is then routed to BGT via a 30" subsea pipeline (PL23).

The Cessation of Production (CoP) documentation for Leman 27J was submitted to the North Sea Transition Authority (NSTA) in November 2021. Approval for CoP was gained on 15th December 2021. The Leman 27J jacket will be decommissioned because no other viable opportunities were identified for the reuse of the jacket.

Pre-decommissioning geophysical and environmental surveys were conducted in 2023. The 27J wells, detailed in Table 2.2, were plugged and abandoned to AB2 during the topside hydrocarbon safe (HCS) campaign in the autumn of 2024. The 27J topside was removed in November 2024 and the jacket is currently in the 'Dismantlement Interval Phase'. A riser section length of 15.3m was removed with the topside.

PL207 will be cut at the tee junction on PL206 at a water depth of -44.8m LAT. PL207 will also be cut on the seabed near the base of the jacket (-46.6m LAT) to remove the required section necessary to create the air gap between the riser and the rest of the pipeline system to facilitate the removal of the jacket structure. The seabed laid section of PL207 will be removed from the seabed after the jacket removal campaign. The pipeline is free spanning in this area, supported by grout bags. The grout bags will also be removed so they cannot pose a snagging hazard. The riser section will be removed with the jacket. The 500m safety zone will remain active until a dedicated DP for Leman PL206 is completed and PL206 and its stabilisation material are decommissioned.

PL207 has been verified as HCS following seawater flushing to concentrations of less than 30 parts per million oil in water. Immediately after the completion of the pipeline flushing operation, PL207 was isolated and physically air-gapped at the topside on the Leman 27J platform.

The 27J jacket is located within the boundary of the North Norfolk Sandbanks and Saturn Reef Special Area of Conservation (SAC) and the Southern North Sea SAC protected areas (Appendix 1). A reef survey was conducted at the Leman 27J site in July 2025 to assess current biogenic reef condition and any impact of previous jack-up rig activity.

1.4 Overview of Installation Being Decommissioned

1.4.1 Jacket(s)

Table 1.1: Jacket Being Decommissioned				
Fields	Leman		**Production Type (Oil/Gas/Condensate)**	Gas
Water Depth (m)	41.8		**UKCS Block**	49/27a
Distance to median (km)	60		**Distance from nearest UK coastline (km)**	53
Surface Installations				
Number		Type	Topsides Weight (Te)	Jacket Weight (Te)
1		Fixed leg steel NUI platform	N/A	1,124*
Subsea Installations			**Number of Wells**	
Number	Type	Template Weight (Te)	Platform	Subsea
0	N/A	N/A	5	0
Drill Cuttings Piles				
Number of Piles		0	Total Estimated Volume (m^3)	N/A

**Includes the weight of the jacket, piles (ungrouted) and marine growth*

Table 1.2: Jacket Section 29 Notice Holders Details		
Section 29 Notice Holders	**Registration Number**	**Equity Interest (%)**
Perenco UK Limited	04653066	78.26
RockRose UKCS 10 Limited	04105025	21.74
RockRose UKCS15 Limited	SC375371	0
Amoco (U.K.) Exploration Company, LLC	BR005086	0
Amoco U.K. Petroleum Limited	00799710	0
Apache Beryl I Limited	BR001327 FC005975	0
BG International Limited	00902239	0
Enterprise Oil Limited	01682048	0
Hess Limited	00807346	0
Perenco Gas (UK) Limited	00715529	0

1.4.2 Pipeline(s)

Table 1.3: Pipeline(s) Being Decommissioned	
Number and total length (km) of Pipeline(s) / umbilical(s) **(Full details given in Table 2.2)**	1X PL207 = 0.0897km

Table 1.4: Pipeline Section 29 Notice Holders Details		
Section 29 Notice Holders	**Registration Number**	**Equity Interest (%)**
Perenco UK Limited	04653066	78.26
RockRose UKCS 10 Limited	04105025	21.74
RockRose UKCS15 Limited	SC375371	0
Amoco (U.K.) Exploration Company, LLC	BR005086	0
Amoco U.K. Petroleum Limited	00799710	0
Apache Beryl I Limited	BR001327 FC005975	0
BG International Limited	00902239	0
Enterprise Oil Limited	01682048	0
Hess Limited	00807346	0
Perenco Gas (UK) Limited	00715529	0

1.5 Summary of Proposed Decommissioning Programmes

Table 1.5: Summary of Decommissioning Programmes	
Proposed Decommissioning Solution	**Reason for Selection**
Substructures (Jackets)	
The leg piles will be cut to a target depth of at least -3m below the mean seabed level. As the seabed around the Leman field is expected to vary significantly over time, Perenco will investigate the opportunities to perform deeper internal cuts of the piles, subject to surveys to verify the piles are free of internal blockages. Cutting of the piles is anticipated to be executed by internal cutting equipment. However, if this proves unfeasible it would be necessary to excavate the seabed around the piles to enable external cutting. The jacket will be transported to a disposal yard for onshore disposal and recycling. Perenco will assess alternative options for removal based on structural integrity, project efficiency and vessel capability.	To comply with the Oslo and Paris Conventions (OSPAR) requirement to leave a clear seabed removes a potential obstruction to fishing operations and maximises the potential for recycling of materials.
Pipelines, Flowlines, Umbilicals & Riser Sections	
The seabed laid section of PL207 will be removed from the seabed after the jacket removal campaign. Cuts will be made at the tee junction on PL206 (-44.8m LAT) and near the base of the 27J jacket (-46.6m LAT). The tee junction will be cut as far back as possible and left open. The PL207 riser will be removed with the jacket structure. Recycle and other recovery methods will be the prioritised disposal options. As the tee junction will be cut as far back as possible and left open, 500m safety zone (Order No. 740) will remain in place until PL206 is fully decommissioned, which will be detailed in a separate Pipeline DP.	The residual snagging hazard left by the open tee junction is mitigated for by a safety zone Order (No. 740), which will remain once Leman 27J jacket is removed and covers the exposed tee junction and PL206. This will only be revoked once PL206 is decommissioned. Meets HSEx regulatory requirements and the OEUK and NSTA guidelines.
Pipeline and related infrastructure stabilisation features	
Pipeline stabilisation features (grout bags) will be removed from the seabed. If these grout bags are not recoverable, i.e., they have degraded to the point that they cannot be picked up, the PUK will engage with OPRED to discuss alternative options.	To remove snagging hazard. Meets HSEx regulatory requirements and the OEUK and NSTA guidelines.
Wells	
All wells will be fully abandoned to AB3 status.	The wells will be abandoned in accordance with OEUK guidelines and in compliance with relevant HSE regulations.
Drill Cuttings	

No drill cuttings were identified on the seabed adjacent to the installation.	The cuttings pile would have been widely dispersed and therefore falls below OSPAR 2006/5 thresholds.
Interdependencies	
There are no longer any interdependencies to Leman 27H and 27A due to PL207 being air-gapped from the HCS campaign. Moreover, PL206 is an inactive pipeline; it has been verified as HCS, isolated and physically air-gapped at the topside on the 27H and 27A platforms.	

1.6 Field Location Including Field Layout and Adjacent Facilities

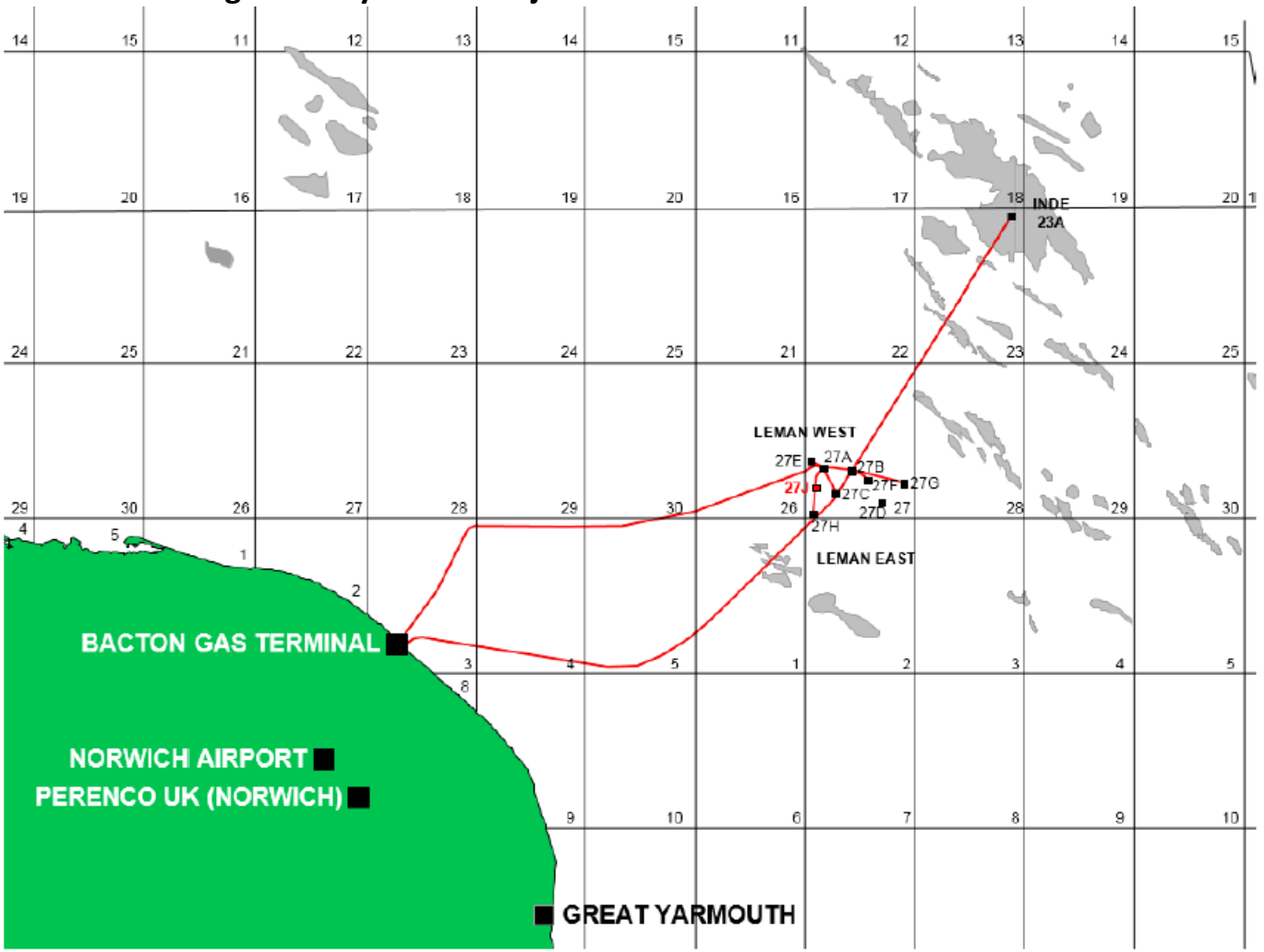


Figure 1.1: Field Location in UKCS

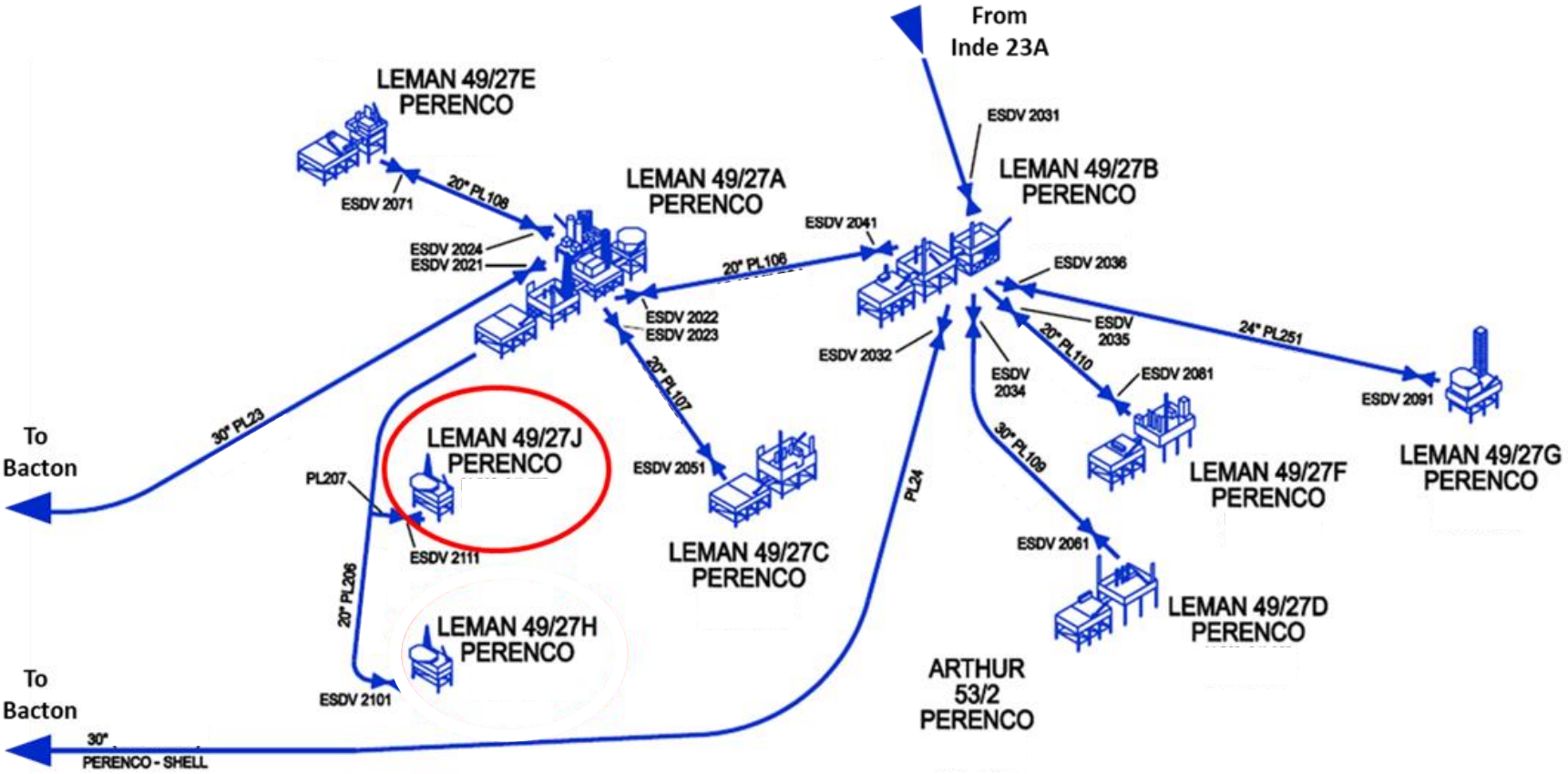


Figure 1.2: Field Layout

Table 1.6: List of Adjacent Facilities					
Operator/Owner	**Name**	**Type**	**Distance/Direction**	**Information**	**Status**
Shell U.K Limited	Leman 26B	Platform	5.4km Northwest	Adjacent platform	Operational
Shell U.K Limited	Leman 26D	Platform	3.46km Northwest	Adjacent platform	Operational
Shell U.K Limited	Leman 26E	Platform	3.06km Northwest	Adjacent platform	Operational
Perenco UK Limited	Leman 27A	Platform	2.74km Northeast	Adjacent platform	Operational
Perenco UK Limited	Leman 27B	Platform	5km Northeast	Adjacent Platform	Operational
Perenco UK Limited	Leman 27C	Platform	2.65km East	Adjacent Platform	Operational
Perenco UK Limited	Leman 27D	Platform	8.37km Southeast	Adjacent platform	Operational
Perenco UK Limited	Leman 27E	Platform	3.21km North	Adjacent Platform	Operational
Perenco UK Limited	Leman 27F	Platform	6.56km East	Adjacent Platform	Operational
Perenco UK Limited	Leman 27G	Platform	11km East	Adjacent Platform	Operational
Perenco UK Limited	Leman 27H	Platform	3.19km South	Adjacent Platform	Non-Operational
Impacts of Decommissioning Proposals on third party/adjacent facilities					
Decommissioning of the 27J jacket will have no impact on the other Shell and Perenco Leman platforms and pipelines.					

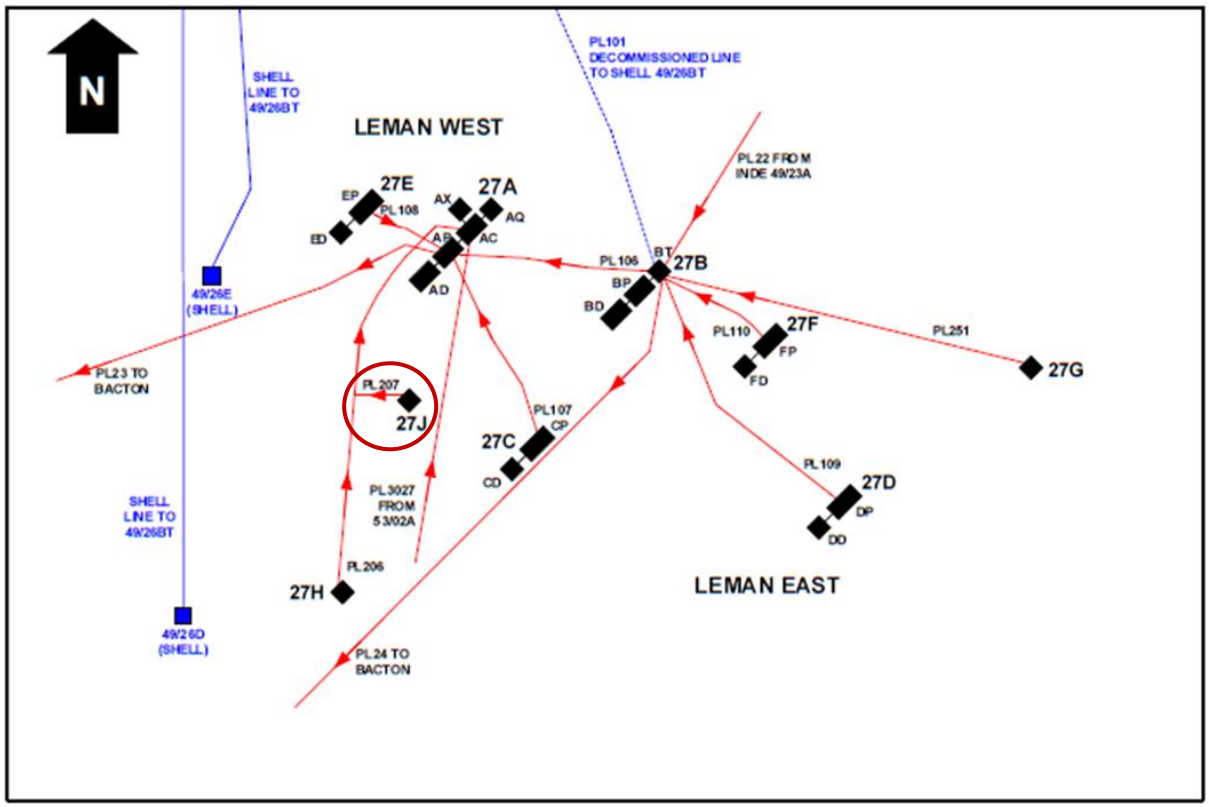


Figure 1.3: Adjacent Facilities

1.7 Industrial Implications

Perenco's contract strategy and Supply Chain Action Plan will result in an efficient and cost-effective execution of the decommissioning works.

Perenco manages the Leman 27J DPs to ensure safe, efficient, and legally compliant delivery of the various elements of the decommissioning scope. The intention is to make efficient use of the supply chain to generate value through the application of knowledge, innovation, and technology, explore collaboration opportunities and employ best practices in supply chain management to deliver a cost-effective and reliable service. Where appropriate, existing framework agreements may be used for decommissioning activities.

2. DESCRIPTION OF ITEMS TO BE DECOMMISSIONED

2.1 Installation: Surface Facilities (Jacket)

Table 2.1: Surface Facilities Information							
Name	Facility Type	Location		Jacket			
		WGS84 decimal	WGS84 decimal of a minute	Weight (Te)	No. of Legs	No. of Piles	Weight of Piles (Te)
Leman 27J	NUI	53.03192122N 02.21784042E	53° 01' 54.9164"N 02° 13' 04.2255"E	1,124*	4	4	281

**Jacket weight is inclusive of the jacket, pile weights and marine growth.*

2.2 Pipelines Including Stabilisation Features

Table 2.2: Pipeline/Flowline/Umbilical Information							
Pipeline Number	Description	Length (km)	Product Conveyed	From – To Location Points	Burial Status	Pipeline Status	Current Content
PL207	16" Subsea Pipeline	0.0897km *	Gas	From the riser open cut-end near the top of the 27J Jacket to the tee junction on PL206.	Riser – exposed; attached to jacket. Subsea pipeline – free spanning; supported by grout bags	Out of Use	Flushed clean and filled with seawater

** A 15.3m riser section length was previously removed with the topside in 2024. The remaining riser section is 44.7m in length and the surface laid pipeline is 45m.*

Table 2.3: Subsea Pipeline Stabilisation Features					
Stabilisation Feature	Number	Weight	Location		Exposed/Buried/ Condition
			WGS84 decimal	WGS84 decimal of a minute	
Grout bags	2	1 Te each (estimate)	53.03192031N 02.21741977E And 53.03183141N 02.21757050E	53° 01' 54.913" N 02° 13' 2.711" E And 53° 01' 54.593" N 02° 13' 3.254" E	Exposed

2.3 Wells

Table 2.4: Well Information			
Platform Wells	**Designation**	**Status**	**Category of Well**
49/27-J1	Gas Production	AB2	PL-0-0-1
49/27-J2	Gas Production	AB2	PL-0-0-1
49/27-J3	Gas Production	AB2	PL-0-0-1
49/27-J4	Gas Production	AB2	PL-0-0-1
49/27-J5	Gas Production	AB2	PL-0-0-1
Subsea Wells			
There are no subsea wells associated with the 27J installation.			
E&A Wells			
There are no Exploration and Appraisal Wells (E&A) associated with the 27J installation.			

2.4 Drill Cuttings

Table 2.5: Drill Cuttings Pile(s) Information		
Location of Pile Centre (Latitude/Longitude)	**Seabed Area (m^2)**	**Estimated Volume of Cuttings (m^3)**
N/A	N/A	N/A

2.5 Inventory Estimates

Figure 2.1: Pie Chart of Estimated Inventory (Jacket)

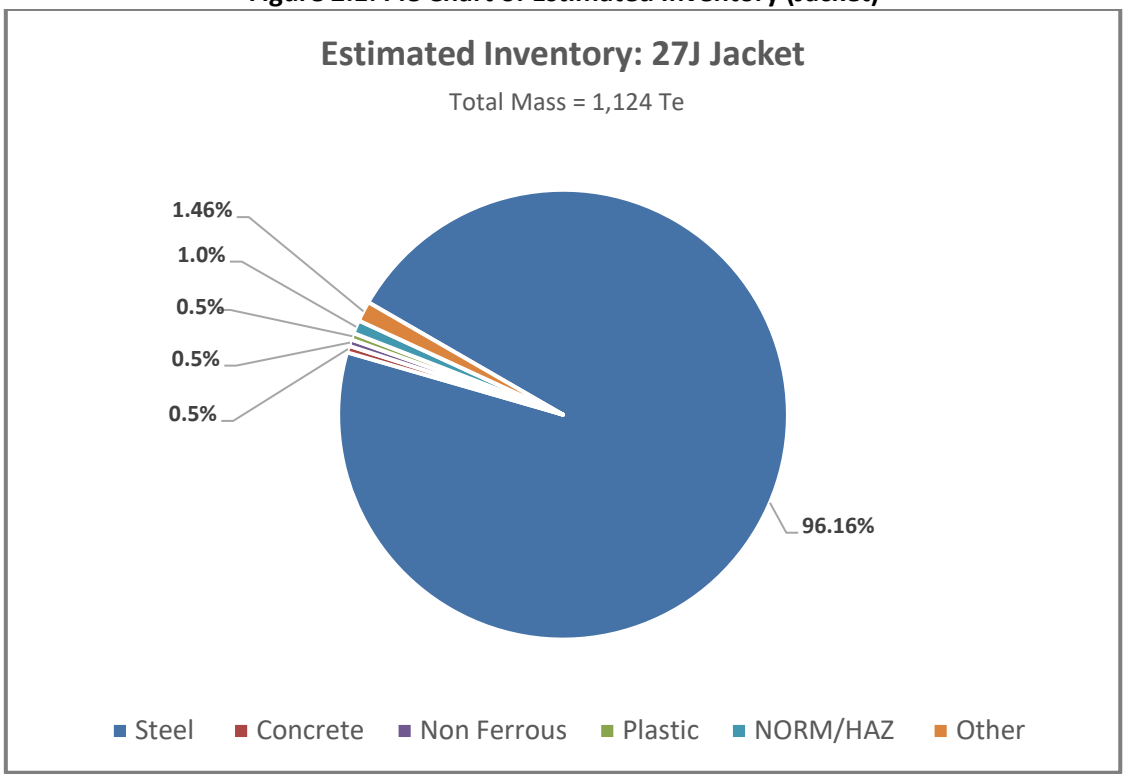
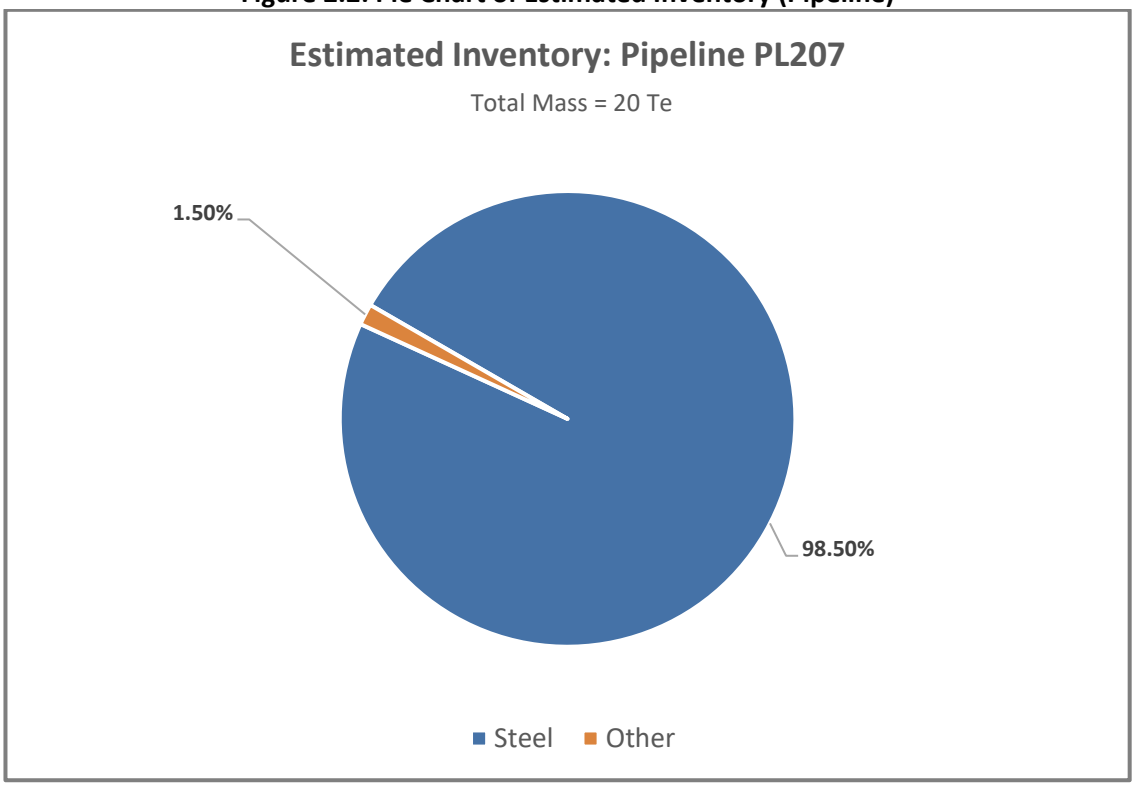


Figure 2.2: Pie Chart of Estimated Inventory (Pipeline)



3. REMOVAL AND DISPOSAL METHODS

Disposal option selection will be in accordance with the Environmental Agency Waste Management Hierarchy. Perenco will consider the disposal options available, considering the business needs within Perenco to reuse equipment and materials where appropriate.

A suitable relocation or reuse for the jacket as a whole and the pipeline PL207 has not yet been identified; therefore, dismantling the jacket and pipeline at an onshore disposal facility is considered the most likely disposal option. Those materials deemed suitable for recycling will be recovered at an appropriate recycling facility.

If the jacket and pipeline will be disposed of outside the United Kingdom, Perenco will apply to the Environment Agency for International Waste Shipment (IWS) consent, in accordance with the International Waste Shipments (Amendment of Regulation (EC) No 1013/2006 and 1418/2007) Regulations 2021.

3.1 Jackets

3.1.1 Jacket Decommissioning Overview

A single lift removal option using a suitable Heavy Lift Vessel (HLV) and transportation ashore for cleaning, break up and recycling is considered the most likely removal methodology currently. A high-level description of this removal option is presented below, although the exact cutting points and removal method are subject to detailed engineering and commercial tendering.

The pile cuts will be made -3m below the seabed level to ensure that any remains are unlikely to become uncovered. The means of cutting will be an industry standard technique such as diamond wire, oxyacetylene, or high-pressure abrasive water jet cutting.

In preparation for the Leman 27J riser removal, PL207 will be cut and air-gapped at the tee junction on PL206 (-44.8m LAT). PL207 will also be cut on the seabed near the base of the Leman 27J jacket (-46.6m LAT) to facilitate the removal of the jacket structure. The seabed laid section of pipeline will be removed after jacket removal.

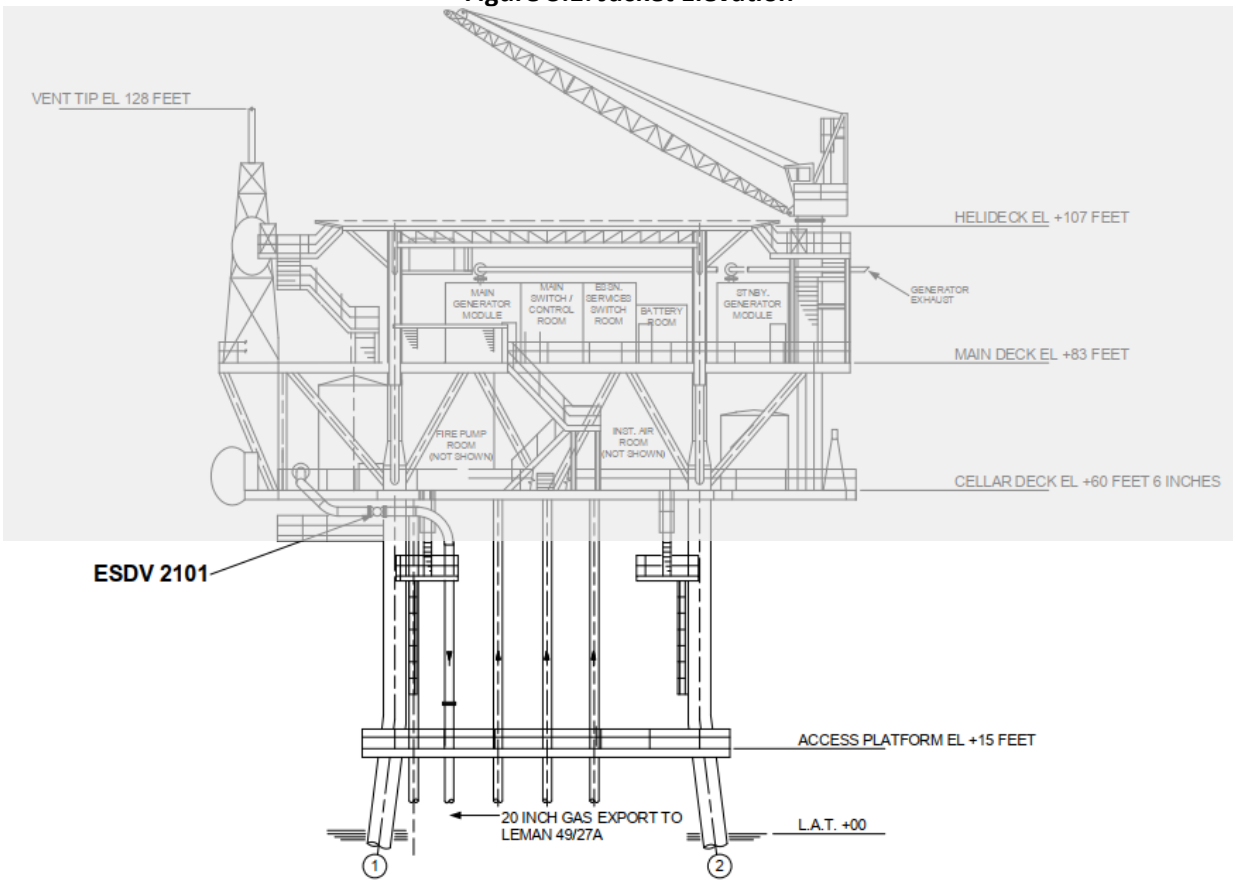
The steps presented below provide a high-level chronological summary of the key stages of the 27J jacket dismantling using a single lift/ heavy lift vessel:

- Mobilisation of equipment and personnel to HLV.
- Transit of vessel to Leman field.
- Arrive at 500m safety zone and complete pre-entry checks.
- Move into position next to the jacket.
- Launch a Remotely Operated Vehicle (ROV) to inspect the jacket.
- Connect rigging to grillage which the solar Aids to Navigation (AtoNs) are placed on with Rope Access Technician (RAT) (if required) and hang off rigging to the vessel deck.
- Connect rigging to the main crane.
- Lift grillage and solar AtoNs from the jacket.
- Connect rigging to jacket pad-eyes with RAT and hang off rigging to the vessel deck.
- Remove soil plug from pile annulus and complete pile cuts.
- Connect rigging to the main crane.

- Lift the jacket to the deck of the vessel and seafasten in place.
- Execute as-left survey/debris removal with ROV.
- Complete safety checks in preparation for leaving the field and moving out of 500m safety zone.
- Transport the jacket to a disposal yard for onshore disposal and recycling.

Trinity House will be informed when the AtoNs on the jacket are extinguished. AIS base station will be switched off once the jacket is removed.

Figure 3.1: Jacket Elevation



N.B. The grey shaded area shows the topside which was decommissioned in 2024.

3.1.2 Jacket Removal Methods

The jacket will be removed to shore for cleaning and disposal. The pile cuts will be made to -3m below the seabed level to ensure that any remains are unlikely to become uncovered. The means of cutting could be diamond wire, oxyacetylene, or high-pressure abrasive water jet cutting.

The 27J jacket will be removed by the methods outlined in the table below:

Table 3.1: Jacket Removal Methods	
1) HLV (semi-submersible crane vessel) ☑ 2) Single lift Vessel (SLV) ☐ 3) Piece small ☐ 4) Other ☐ (*describe briefly)*	
Method	**Description**
Single lift removal by HLV	27J with its piles and riser will be removed as complete units by an HLV and transported to shore for re-use of selected equipment, recycling, break up and disposal. If the decommissioning method changes, OPRED will be notified.

3.2 Pipelines

Decommissioning Options:
A Comparative Assessment (CA) is not required as the subsea pipeline is considered to be an extension of the riser and is sitting on top of the seabed and is therefore a snagging hazard.

Table 3.2: Pipeline or Pipeline Groups Decommissioning Options			
Pipeline or Group (as per PWA)	**Condition of line/group**	**Whole or part of pipeline/group**	**Decommissioning options considered***
PL207	Riser is attached to jacket, exposed. Subsea pipeline is free spanning.	Whole of the pipeline.	A CA is not required; the pipeline is a snagging hazard and will be fully removed.

3.3 Pipelines Stabilisation Feature(s)

Table 3.3: Pipeline Stabilisation Feature(s)			
Subsea installation(s) and stabilisation feature(s)	**Number**	**Option**	**Disposal Route**
Grout bags	2	A CA is not required. The grout bags are a snagging hazard and plan to be removed unless they are unrecoverable, in which case OPRED will be engaged to discuss alternative options.	Full removal to shore.

3.4 Waste Streams

Table 3.4: Waste Stream Management Methods	
Waste Stream	**Removal and Disposal method**
Bulk Liquids	N/A
Marine growth	Removed offshore/onshore and disposed of according to guidelines.
NORM/ Low Specific Activity (LSA) Scale	The pipeline was made HCS (flushed, cut above water just below the cellar deck elevation, and filled with seawater). No NORM was detected during the topside dismantlement operation. Therefore NORM/LSA waste is not expected.
Asbestos	N/A
Other hazardous wastes	The pipeline was made HCS (flushed, cut above water just below the cellar deck elevation, and filled with seawater). Due to this, a survey for hazardous waste will not be required for this decommissioning activity.
Onshore Dismantling sites	Appropriate licensed sites will be selected. The dismantling site must demonstrate a proven disposal track record and waste stream management throughout the deconstruction process and demonstrate their ability to deliver re-use and recycling options. If an onshore site is required, OPRED will be contacted.

Table 3.5: Inventory Disposition			
	Total Inventory (Te)	**Planned (Te) to Shore**	**Planned Left in Situ**
27J Jacket	1,124*	843**	281***
PL207 (including riser section)	20	20	0

** The total inventory includes the weight of the piles, the jacket, and marine growth.*
*** Planned tonnage to shore includes the jacket and marine growth.*
**** Planned tonnage left in situ includes piles left in situ once cut -3m below the seabed.*

4. ENVIRONMENTAL APPRAISAL OVERVIEW

4.1 Environmental Sensitivities (Summary)

Table 4.1: Environmental Sensitivities	
Environmental Receptor	**Main Features**
Conservation interests	Leman 27J is located within the boundary of the North Norfolk Sandbanks and Saturn Reef Special Area of Conservation (SAC) and Southern North Sea SAC protected area. The North Norfolk Sandbanks and Saturn Reef SAC features of Annex I habitats; Sandbanks which are slightly covered by sea water all the time (1110) and Reefs (1170). The site encloses a series of offshore linear ridge and tidal sandbanks with extensive sand waves. Invertebrate communities are typical of sand sediments such as polychaete worms, isopods, crabs, and starfish. Areas of *S. spinulosa* biogenic reef are present within the site, consisting of thousands of fragile sand-tubes made by ross worms (polychaetes) which have consolidated to create solid structures rising above the seabed. The Southern North Sea features an Annex II species, the Harbour porpoise (*Phocoena phocoena*) (1351). The site has been identified as an area of importance for harbour porpoises and supports 17.5% of the UK North Sea Management Unit population. This site covers an area of 36,951 km^2. The majority of this site lies offshore, though it does extend into coastal areas of Norfolk and Suffolk. The northern two-thirds of the site is recognised as important for porpoises during the summer season (April – September), whilst the southern part supports persistently higher densities during the winter (October – March).
Seabed	The presence of Deep Circalittoral Sand (A5.27) seabed habitat was expected in the project area based on the seabed classifications provided by the European Nature Information System (EUNIS). However, the 2023 pre-decommissioning Habitat Assessment Surveys conducted in the Leman 27J area have primarily classified the habitat as homogenous circalittoral muddy sand (A5.26). Extensive areas of the biotope *S. spinulosa* on stable circalittoral mixed sediment (A5.611) were also interpreted throughout the survey area. There was little variation in sediment composition across the survey area, with most stations predominantly consisting of sand. Sand ripples and mega ripples were observed throughout the area. While mud made up a larger portion of the sediment than gravel at most sites, it never formed a significant proportion of the overall sediment. The survey identified the following species as the most significant contributors to the total abundance within the survey area: *Nephtys cirrosa, Urothoe brevicornis, Ophelia borealis, Abludomelita obtusata, Ophiuridae juvenile, Scoloplos armiger, Bathyporeia guilliamsoniana* and *Nephtys_Juvenile. U. brevicornis* was the most abundant taxon, representing 17.5% of all individuals sampled and occurring in nearly 82% of the samples. *N. cirrosa* and *S. armiger* were also an important component of the macrobenthic assemblages observed.

	Their prevalence suggests that the area provides a sufficient supply of organic material to support their presence in relatively high numbers. Seabed imagery analysis revealed the presence of a low and medium resemblance *S. spinulosa* reef. The reefs appeared healthy and covered a significant proportion of the seabed. Across the survey area, epifauna was typically scarce becoming more prevalent in proximity of biogenic reefs, a known hot spot for biodiversity. Conversely, the rest of the survey area was characterised by an infauna-dominated community. The presence of healthy *S. spinulosa* reefs in some areas suggested that conditions such as water quality and sediment stability could be favourable for these organisms.
Fish	Species that spawn or nurse within ICES 35F2 rectangle, where Leman 27J is located, includes mackerel (*Scomber scombrus*), sandeel (*Ammodytes spp.),* whiting (*Merlangius merlangus*), cod (*Gadus morhua*), plaice (*Pleuronectes platessa*), lobsters (*Nephrops norvegicus*), sprat (*Sprattus sprattus*), sole (*Solea solea*), and lemon sole (*Microstomus kitt*).
Fisheries	There is currently no data published on fishing effort in ICES rectangle 35F2. However, activity within the adjacent ICES rectangle 36F2 included 193 days of fishing effort during 2021, 265 days of effort in 2020 and 112 days of effort in 2019. The types of gear used were primarily Seine nets, traps, trawls, and dredges. A total of 289 Te was landed in 36F2 in 2021, 400 Te in 2020 and 215 Te in 2019. Landed species are made up predominantly of Edible crabs (*Cancer pagarus*), and Scallops.
Marine Mammals	The Southern North Sea generally has a relatively low density of marine mammals. While over ten species of cetaceans have been recorded in the Southern North Sea, only the harbour porpoise and white-beaked Dolphin can be considered regularly occurring throughout most of the year, and the Minke Whale is a frequent seasonal visitor. The relative abundance and density of cetaceans be derived from data obtained during the Small Cetacean Abundance of the North Sea (SCANS-IV) aerial and ship-based surveys. The location of the Leman 27J is within SCANS-IV Block 'NS-C', in which harbour porpoises, bottlenose dolphins, minke whales, white-beaked dolphins and common dolphins have been recorded. The density of the harbour porpoise within this Block is higher than the total surveyed area, suggesting that the area may be important for these species. In addition, two species of seal, the grey seal, and the harbour seal, are common along the East coast of England, particularly around The Wash, where harbour seals forage over a wide area. Foraging areas can be up to 100km offshore and connected to haul-out sites by prominent high-usage corridors. The distribution of grey seals in the vicinity of Leman 27J is considered to be very low (0-15 individuals per 25 km^2) and is also recorded as very low for harbour seals (0-10 individuals per 25 km^2) [Ref 1].
Birds	Leman 27J is located 34km from the Greater Wash Special Protection Area which covers an area of 3,536km^2 and is classified for the protection of red-throated diver (*Gavia stellata*), common scoter (*Melanitta nigra*), and little gull (*Hydrocoloeus minutus*) during the non-breeding season, and for breeding

	Sandwich tern (*Sterna sandvicensis*), common tern (*Sterna hirundo*) and little tern (*Sternula albifrons*). Fulmars are present in highest numbers during the early and late breeding seasons, leading to peak densities in September. Kittiwakes are widely distributed throughout the year. Lesser black-backed gull are mainly summer visitors, while in contrast guillemot numbers are greatest during winter months. In addition, substantial numbers of terns migrate northwards through the offshore North Sea area in April and May, with return passage from July to September. Black-legged kittiwakes are the predominant bird species exploiting nesting opportunities on offshore installations in the SNS (typically those in lighthouse mode before dismantlement). No nests or kittiwakes were identified on the 27J platform during a bird survey carried out by RSK in June 2023 [Ref 2]. Bird surveys were repeated by Xodus Group in May 2024 and May 2025 where, again, no nesting birds were observed [Ref 3, Ref 4]. It was also noted that it would be unlikely that there would be any successful nesting activity initiated during the 2025 breeding season.
Onshore Communities	The only interaction between the project and onshore communities will be via the handling and treatment of waste. Generated waste will include the removed jacket and low levels of vessel-derived waste. All waste produced from the Leman 27J decommissioning activities will be transported to a licenced onshore waste handling facility. Perenco will ensure the chosen site(s) comply with all relevant permitting and legislative requirements. No other impacts on onshore communities have been identified. As a result, no onshore communities are expected to be affected by the DPs.
Other Users of the Sea	The automatic safety zone around Leman 27J will be replaced and replicated by the safety zone established by Order No. 740 once the installation is removed. The waters surrounding the Leman 27J are described as having 'High' shipping activity. There is significant oil & gas surface and subsurface infrastructure in the blocks of interest, predominantly associated with the Leman and Indefatigable fields. The surrounding areas have also been heavily licensed for oil and gas development, with a number of gas fields being suspended or ceased production. Due to the high oil and gas activity in the area, there are also several pipelines, flowlines and umbilicals that pass through Block 49/27, which service Leman and neighbouring facilities. Additionally, the closest active telecommunication cable, NORSEA COM 1 LOW-MUR operated by Tampnet, runs along the eastern edge of UKCS block 49/27, approximately 12.1km from the intended installation. There are no other sea users within Block 49/27. However, the nearest offshore windfarm site is the Norfolk Vanguard West windfarm in Block 53/2, which has received consent for development. No tourism and leisure activities are identified as occurring within the vicinity 27J installation.
Atmosphere	Atmospheric emissions will occur as a result of operating the HLV during the decommissioning operations. A total of 1331.44 Te of CO_2e are expected to be released to the atmosphere as a result of the deploying the HLV for the jacket

	removal and the MSV for the pipeline removal. This represents <0.0086% of the total UKCS offshore CO_2 emissions and 0.00031% of the total UK net CO_2 emissions (based on 2021 data from OEUK and BEIS). These air emission contributions are far below any thresholds for emissions in the UKCS or on a global scale and are not significantly larger than general vessel operations in the region, resulting in negligible emissions.

4.2 Potential Environmental Impacts and their Management

Environmental Impact Assessment Summary:

Following a detailed review of the proposed decommissioning option, the environmental sensitivities present in the area, and the potential impacts on the environment, it has been determined that the decommissioning of the Leman 27J jacket and pipeline will not present any significant impacts. The impacts associated with the decommissioning option are well understood and managed through the implementation of established mitigation measures.

Temporary seabed impact will likely result from pipeline cutting and removal, HLV positioning (spud can placement, anchors, anchor chains), excavation, cutting, and jacket lifting, while noise emissions arise from underwater cutting, excavation equipment, and HLV operations. A portion of the seabed disturbance may also impact *Sabellaria spinulosa* reef. However, the area of reef potentially impacted is relatively small, 0.0005% of the North Norfolk Sandbanks and Saturn Reef SAC and 1.12% of the reef area within 1 km². Recovery of *Sabellaria spinulosa* reefs is typically rapid and in the long-term, removal of anthropogenic infrastructure will ultimately allow more natural benthic cover to prosper.

Following further assessment, the potential impacts of the works have been determined not to be significant following the implementation of the below-stated mitigation measures. Overall, the decommissioning option presented is determined as not having a significant impact on environmental or societal receptors within the UKCS or internationally. The full assessment can be read in the supporting *Leman 49/27J Jacket & PL207 Decommissioning Environmental Appraisal* Report [Ref 5].

Overview:

Table 4.2: Environmental Impact Management		
Activity	**Main Impacts**	**Management**
Decommissioning of Leman 27J jacket and pipeline	Seabed disturbance and *Sabellaria spinulosa* reef from HLV positioning	A dropdown camera and multibeam echosounder (MBES) survey was undertaken between 25th and 26th July 2025 [Ref 6]. The survey data will be used to inform and optimise the anchor plan, with a goal of avoiding placement of spud cans, anchors, and chains on identified reef areas wherever feasible. The 2025 survey will also help assess the condition of the reef in areas previously impacted by topside decommissioning, to improve understanding of actual recovery rates and inform future decision-making. Repositioning of the jack-up rig will be avoided where possible to minimise repeat seabed disturbance. Once the anchor plan is confirmed and survey analysis is complete, an updated seabed disturbance footprint will be calculated and submitted with the Consent to Locate application.
	Seabed disturbance from cutting, excavation and removal of installation	Proposed cut locations for infrastructure to be removed will be carefully planned to avoid excessive disturbance from excavation. The cutting of the pipeline will be carried out using a diamond wire saw to prevent deposition or garnet. Proposed internal pile cuts will be carefully planned to avoid excessive seabed disturbance and prevent excessive deposition of garnet. Selection of optimal de-burial technology will reduce seabed impact.
	Underground noise emissions from subsea cutting, excavation, and operation of the HLV	Effective operational planning will minimise vessel time in the area. Cutting activities will be planned and carried out efficiently to prevent excessive noise generation. Any required post-decommissioning surveys will be scheduled and planned efficiently to minimise vessel operation time. If required, geotechnical survey equipment will be selected based on the lowest sound volume capable of achieving the required survey results. Standard mitigations for minimising impacts on marine mammals will be employed where required. Internal cutting techniques will be considered as the preferred options for the jacket piles, as they generate less noise and reduce the need for using mass flow excavation. For external cuts, a diamond wire saw or hydraulic shears are the preferred subsea cutting tool.

	Unplanned Events	Vessel best practices will be employed to minimise the potential for spills to sea and to minimise any impacts should they occur. This includes compliance with all MARPOL requirements and the operation of a SOPEP.
	Energy And Emissions	Although the project will produce atmospheric emissions and consume energy, these activities are required to be undertaken to meet decommissioning obligations. Best practices will be employed to minimise this environmental footprint. This includes optimal pipeline cutting and jacket removal operations, planning and procurement of vessels which operate effective environmental management systems, and minimising their emissions.
	Waste Generation	All waste generated from decommissioning activities will be limited to the jacket, pipeline and vessel-derived waste from the HLV. The generated waste will be handled and recovered or disposed of in line with existing waste management legislation following the principles of the waste hierarchy. Cleaning, break up and recycling are considered the current most likely removal methodology for the 27J jacket and pipeline. Raw materials will be returned to shore with the expectation to recycle most of the returned non-hazardous material. Other non-hazardous waste which cannot be reused or recycled will be disposed of as energy from waste and at a landfill site. Hazardous waste will be disposed of in accordance with established waste legislation. Only licensed contractors will be used for waste handling and treatment/disposal.
	Physical Presence of Vessels in Relation to Other Sea Users	The HLV will be positioned within the existing Leman 27J 500m safety zone. Vessel traffic and activity will be managed by the issuing of Kingfisher Notice to other mariners and vessel-operated Automatic Identification System.
	Birds	No impacts from the proposed jacket decommissioning activities are anticipated for any nesting seabirds on the Leman 27J jacket. Should nesting birds be identified on the platform during the breeding season Perenco will assess ongoing activities to determine the potential for disturbance.
	Operational Discharges to Sea	Any potential residual hydrocarbon and chemical volumes that may escape to sea during pipeline cutting operations are expected to be minimal and will be considered under the individual permit consent applications for the decommissioning activities.

		Vessel based discharges will be limited to those generally associated with the decommissioning vessel controlled via established methods under MARPOL requirements. Approved contractor procedures will assess and minimise vessel-based discharges.

5. INTERESTED PARTY CONSULTATIONS

Table 5.1: Summary of Stakeholder Comments		
Who	**Comment**	**Response**
1. Informal Stakeholder Consultations		
Health and Safety Executive		
Environment Agency		
UKHO		
MCA		
Trinity House		
MMO		
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		Perenco UK Limited has consulted with NSTA under S29(2A) of the Petroleum Act

6. PROGRAMME MANAGEMENT

6.1 Project Management and Verification

A Perenco Project Management team will manage the operations of competent contractors selected for all decommissioning activities. The team will ensure the decommissioning is executed safely, in accordance with legislation and Perenco Policies and Principles.

Perenco 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 SNS. Perenco will monitor and track the process of consent and the consultations required as part of this process.

6.2 Post-Decommissioning Debris Clearance and Seabed Clearance Verification

Before the commencement of all physical decommissioning activities as proposed in the DPs, a pre-decommissioning survey was completed inside the Leman 27J 500m safety zone in December 2022 [Ref 7]. This survey included: a bathymetry survey, an Environmental Baseline Survey (EBS) and a Habitat Assessment Survey (HAS). A geophysical survey was also conducted in July 2025 to acquire data to evaluate the potential hazards for a self-elevating platform and to ensure there is no debris which may impede the safe operation of a jack-up barge [Ref 8]. This included MBES, Side Scan Sonar (SSS) and single magnetometer. A reef survey completed using drop-down camera sampling was also conducted at the Leman 27J site to assess the current biogenic reef condition and any impact of previous jack-up rig activity. Following the completion of the removal activities detailed in the DPs, an as-left survey will be completed.

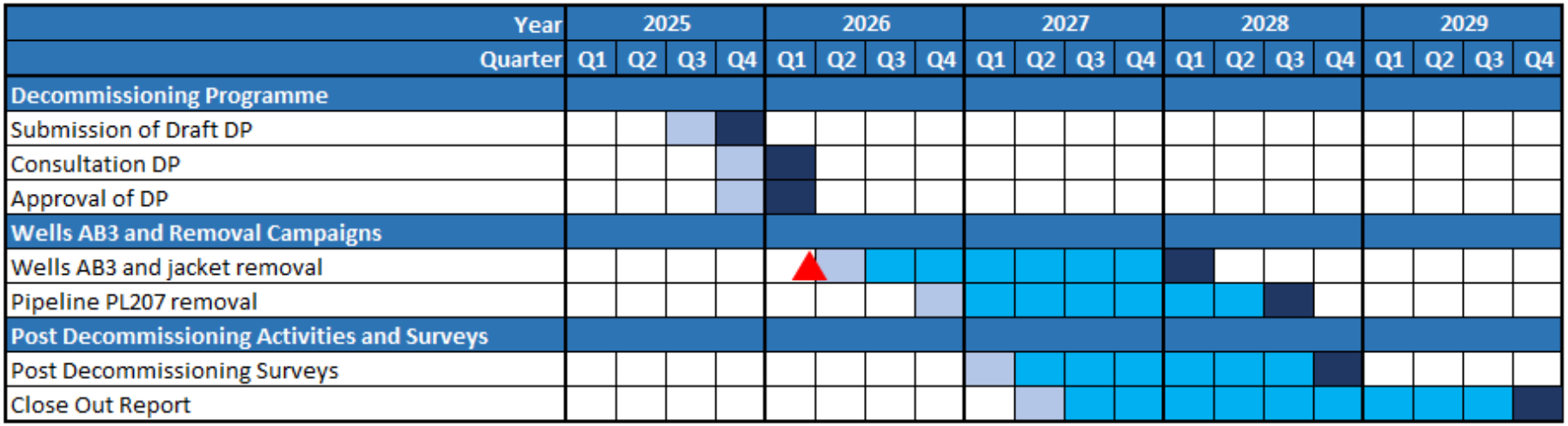
A clear seabed certificate will not be obtained, as required under the Decommissioning Debris Surveys and Recovery and Seabed Clearance Verification guidance by OPRED and NFFO, because the tee junction, which will be cut as far back as possible, will be left open. A 500m safety zone (Order No. 740) will remain in place until PL206 is fully decommissioned. This will be detailed in a separate Pipeline DP. Verification of seabed clearance will be provided to OPRED following the completion of post-decommissioning surveys. The proposed method for clear seabed validation will utilise non-intrusive methodologies, such as SSS/ROV. If non-intrusive methods are deemed inconclusive during verification, alternative methods will be discussed and agreed with OPRED.

Any objects dropped during the removal preparations will be notified to OPRED via the PON2 process. Their subsequent recovery will be reported via the PON2 and DP Progress Reporting processes.

6.3 Schedule

Several decommissioning activities have been carried out before the submission of the Jacket and PL207 DP, as detailed in Section 1.3. This work has been carried out under the appropriate permitting regime for the activity, i.e., OPRED, NSTA and HSEx. Figure 6.1 below provides the timeline of all decommissioning activities concerning the DPs.

Figure 6.1: Gantt Chart of Project Plan



6.4 Costs

The decommissioning costs detailed within the DPs have been provided to OPRED.

6.5 Close Out

In accordance with the OPRED Guidance Notes, a Close Out document will be submitted to OPRED within 12 months of the completion of the offshore decommissioning scope including debris clearance and the first post-decommissioning environmental survey. The report will detail the outcomes of surveys as well as explain any major variances from the programmes.

6.6 Post-Decommissioning Monitoring and Evaluation

A post-decommissioning survey, centred around the sites of the wellheads and former jacket and pipeline, will be carried out. The survey will focus on chemical and physical disturbances of the decommissioning area and be compared with the pre-decommissioning survey. The results of this survey will be forwarded to OPRED. Any requirement for future legacy monitoring based on the results of the pre- and post-decommissioning surveys will be agreed upon with OPRED as part of the closeout process.

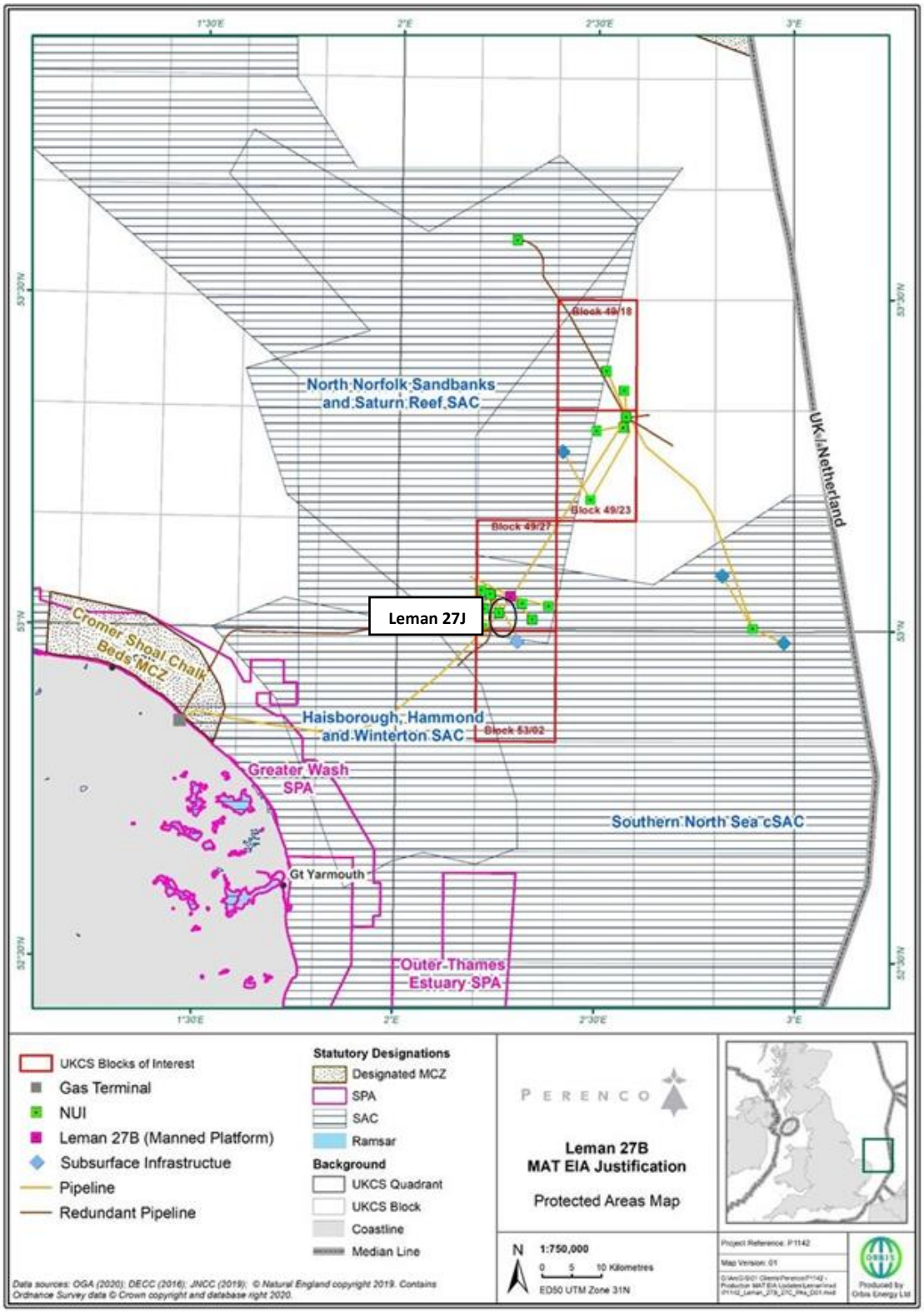
7. SUPPORTING DOCUMENTS

Table 7.1: Supporting Documents	
Document Number	**Title**
1	Russell, D.J.F., Jones, E.L. and Morris, C.D. (2017). Updated Seal Usage Maps: The Estimated at-sea Distribution of Grey and Harbour Seals. Scottish Marine and Freshwater Science, 8 (25).
2	RSK (2023) Outer Dowsing Offshore Wind – Ornithological Census and Capture Trial
3	Xodus Group (2024) Ornithological Support – Perenco Asset Survey 2024
4	Xodus Group (2025) Ornithological Support – Perenco Asset Survey 2025
5	Petrofac (2025) Leman 49/27J Jacket & PL207 Decommissioning Environmental Appraisal
6	Ocean Ecology (2025) Perenco Decommissioning Programme – Leman 27J Reef Survey 2025 Survey Report
7	Ocean Ecology (2023) Perenco Post-Decommissioning surveys 2022 (Batch 2)- Leman 27J Habitat Assessment Report
8	N-SEA (2025) Debris Site Survey Result Report Leman 27J

8. SECTION 29 NOTICE HOLDERS' LETTERS OF SUPPORT

9. APPENDICES

Appendix 1: Protected Areas in the Vicinity of the Leman Field



Appendix 2: Leman 27J Bird Survey 2025

4.16 Leman 27J

Survey Date – 23/05/2025, **Boat**: Esvagt Christina.
Observer Position: Bridge Deck for 500m survey. **Visibility**: Very good.
Remarks: Data was collated during favourable conditions and completed in a day.
Summary: No nesting birds were observed during the vantage point survey conducted at Leman 27J. It is unlikely that there will be any successful nesting activity initiated during the 2025 breeding season.

ASPECT	AON	EVIDENCE OF BIRD ACTIVITY	SPECIES RECORDED
North Face	-	-	-
East Face	-	-	-
South Face	-	-	-
West Face	-	-	-
Undersides/Cellar Deck	-	-	-
Topsides	-	-	-
Derrick, Cranes	-	-	-
Flare Booms	-	-	-
Vicinity - 500 m zone	N/A	-	Herring gull (2)