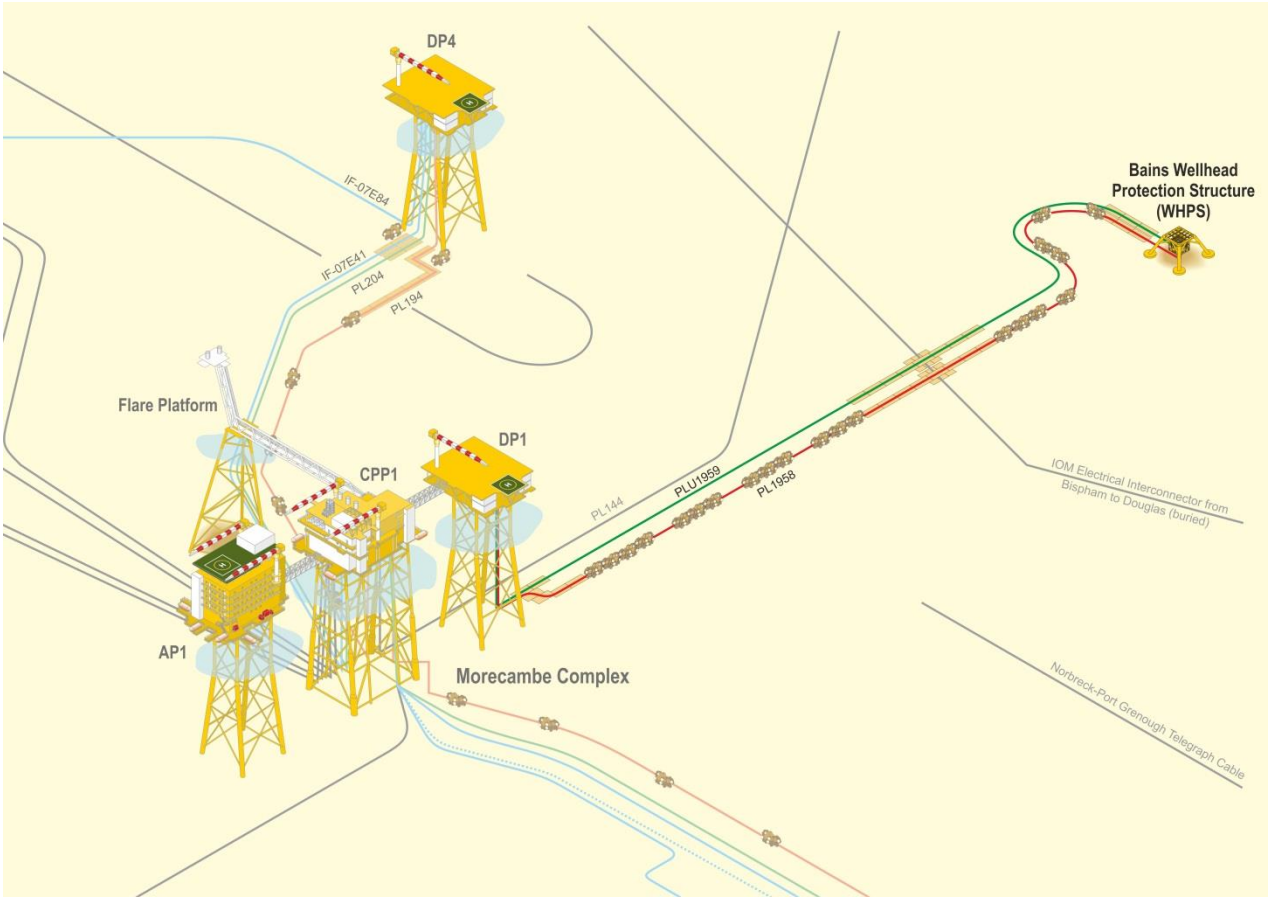
Bains Decommissioning Programmes



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SPIRIT ENERGY

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TERMS AND ABBREVIATIONS

ABBREVIATION	EXPLANATION
ANIFPO	Anglo North Irish Fish Producers Organisation
AP	Accommodation Platform (as in AP1)
Bains	Single well subsea tie-back via pipeline PL1958 to DP1 Platform in East Irish Sea
CP	Central Processing (as in CPC and CPP1)
CSV	Construction Support Vessel
DOC	Depth of Cover. The blue line on the burial profiles shows the profile of cover. The area between the blue line (DOB) and maroon line (DOL) shows the backfill
DOL	Pipeline trench profile; Depth of Lowering (to top of pipe)
DP	Drilling Platform (as in DP1)
DSV	Diving Support Vessel
ESDV	Emergency Shutdown Valve
HRL	Hydrocarbon Resources Limited
HSE	Health and Safety Executive
“	Inch; 25.4 millimetres
IOM (EI)	Isle of Man (Electrical Interconnector)
km	Kilometre
KP	Kilometre Post (distance along pipeline from point of origin)
LAT	Lowest Astronomical Tide
m	metre
MAT	Master Application Template
MCC	Manx Cable Company
Morecambe Area	Platforms within the wider Morecambe Area include, AP1, CPP1, DP1, DP3, DP4, DP5, DP6 and DP8
Morecambe Hub	Platforms at the Morecambe Hub include AP1, CPP1 and DP1
MSV	Multipurpose Support Vessel
N,S,E,W	North, South, East, West
n/a	Not Applicable
NFFO	The National Federation of Fishermen's Organisations
NIFPO	Northern Ireland Fish Producers Organisation
NORM	Naturally Occurring Radioactive Material
NUI	Normally Unattended Installation
OPPC	Oil Pollution Prevention and Control
OPRED	Offshore Petroleum Regulator for Environment & Decommissioning
OSPAR	Oslo-Paris Convention
Platform	Installation comprising topsides and jacket
PL, PLU	Pipeline / Umbilical Identification numbers (UK)

ABBREVIATION	EXPLANATION
PLA	Pipeline Operations as defined in MAT Operation Types
PON	Petroleum Operations Notice
PWA	Pipeline Works Authorisation
SAT	Supplementary Application Template
SFF	Scottish Fishermen's Federation
Spirit Energy	Spirit Energy Production UK Limited, wholly owned subsidiary of Spirit Energy Limited. In November 2017 Centrica Exploration and Production and Bayerngas formed a Joint Venture called Spirit Energy.
tba	To be arranged
Te	Tonne
UK	United Kingdom
UKCS	United Kingdom Continental Shelf
WGS84	World Geodetic System 1984
WHPS	Wellhead Protection Structure

1. EXECUTIVE SUMMARY

1.1 Combined Decommissioning Programmes

This document contains two Decommissioning Programmes, one for each set of notices under Section 29 of the Petroleum Act 1998. The Decommissioning Programmes are:

- The Bains installation, a wellhead protection structure, and
- The associated two pipelines, PL1958 (flexible flowline) and PLU1959 (umbilical pipeline).

Although decommissioning of the Bains installation and pipelines is being treated in this document as a standalone project, it is possible that the operational phase will be carried out as part of a wider decommissioning campaign in the East Irish Sea area. We will also continue to explore cost saving synergies with other projects.

1.2 Requirement for Decommissioning Programmes

Installations: In accordance with the Petroleum Act 1998, Spirit Energy Production UK Limited as operator of the Bains field, and on behalf of the Section 29 notice holders (Table 1.4.2), is applying to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) to obtain approval for decommissioning the installations detailed in Section 2 of this document.

Pipelines: In accordance with the Petroleum Act 1998, Spirit Energy Production UK Limited as operator of the Bains pipelines, and on behalf of the Section 29 notice holders (Table 1.4.4), is applying to OPRED to obtain approval for decommissioning the pipelines detailed in Section 2 of this document.

In conjunction with public, stakeholder and regulatory consultation, the Decommissioning Programmes are submitted in compliance with national and international regulations and OPRED guidance notes. The schedule outlined in this document is for a five-year period due to begin in 2019.

1.3 Introduction

The Bains field lies within the main East Irish Sea in UK Block 110/3c. The field is approximately 27km west of Blackpool in water depths of 18-27m LAT; tidal range is approximately 7.5m.

The Bains gas field was developed as a single well subsea tie-back (Bains 110/3c-5). The field achieved first production in 2002. The Bains installation and pipelines are wholly owned by Spirit Energy Production UK Limited. The Cessation of Production justification for Bains was approved by the Oil and Gas Authority on 06 November 2017.

Following public, stakeholder and regulatory consultation, the Decommissioning Programmes will be submitted without derogation and in full compliance with the OPRED guidance notes. The Decommissioning Programmes explain the principles of the removal activities and are supported by an Environmental Appraisal. The Decommissioning Programme for the pipelines is also supported by a Comparative Assessment.

1.4 Overview of Installation/Pipelines Being Decommissioned

1.4.1 Installations

Table 1.4.1: Installations Being Decommissioned			
Field(s):	Bains	**Production Type**	Gas
Water Depth (LAT)	Approx. 18m	**UKCS Block**	110/3c
Subsea Installation(s)		**Number of Wells**	
Number	Type	Subsea	
1	WHPS	1	
Drill Cuttings pile(s)		**Distance to median**	**Distance from nearest UK coastline**
Number of Piles	Total Estimated volume (m^3)	120km to Irish median 48km to IOM median	27km west of Blackpool
n/a	n/a		

Table 1.4.2: Installation Section 29 Notice Holders Details		
Section 29 Notice Holder	**Registration Number**	**Equity Interest (%)**
Spirit Energy Production UK Limited	03115179	100
First Oil Expro Limited	01021486	0

1.4.2 Pipelines

Table 1.4.3: Pipelines Being Decommissioned		
Number of Pipelines / Umbilicals	2	See Table 2.2.1

Table 1.4.4: Pipelines Section 29 Notice Holders Details		
Section 29 Notice Holder	**Registration Number**	**Equity Interest (%)**
Spirit Energy Production UK Limited	03115179	100
First Oil Expro Limited	01021486	0

1.5 Summary of Proposed Decommissioning Programmes

Table 1.5.1: Summary of Decommissioning Programmes	
Proposed Decommissioning Solution	**Reason for Selected Option**
1. Subsea Installation	
The Bains installation and its integrated suction piles will be completely removed from the seabed. Any permit applications required for work associated with removal of the subsea installation (MAT) will be submitted.	To comply with OSPAR requirements leaving unobstructed seabed. Removes a potential obstruction to fishing operations and maximises recycling of materials
2. Pipelines, Flowlines & Umbilicals	
The flexible flowline and umbilical will be left *in situ* except for	Outside the 500m safety zones the

Table 1.5.1: Summary of Decommissioning Programmes	
Proposed Decommissioning Solution	**Reason for Selected Option**
short exposed sections between the end of burial and bottom of the J tube at DP1 platform and the connection points at the Xmas tree at Bains. Minimal local excavation will be carried out at each end, but enough to ensure safe removal of short exposed ends of the pipelines. Should any overlying fronded mattresses be removed, the resulting exposed section of flowline or umbilical underneath will also be removed. Surveys indicate that both pipelines will remain buried. Their degradation will occur over a long period within the seabed sediment; they are not expected to represent a hazard to other users of the sea. Any permit applications required for work associated with pipeline pigging, flushing, cutting and removal (PLA MAT) will be submitted.	pipelines are already exposed to fishing activity. Historical survey data show that the pipeline approaches near Bains have experienced local seabed scour. We believe once the installation has been removed the extent of scour will abate and the area will recover. Both the flowline and the umbilical are sufficiently buried and stable, posing no hazard to marine users. Minimal seabed disturbance, lower energy usage, reduced risk to personnel engaged in the activity.
3. Pipeline Stabilisation Features	
The gabion sacks and grout bags will be completely recovered. Fronded mattresses will be left *in situ* unless the edges are exposed due to scour in which case attempts will be made to recover them. Should the scour be seen to persist, the contingency plans to deposit rock adjacent to the scoured mattresses will be carried out after an overtrawl of the area. Any permit applications required for work associated with removal (PLA MAT) will be submitted.	Both pipelines are trenched and buried. PL1958 is also intermittently covered using deposited rock within the trench at regular intervals throughout its length. Both ends of each pipeline are extensively buried under fronded mattresses as well as at the Isle of Man Electrical Interconnector cable crossing.
5. Wells	
The subsea well will be abandoned using a Jack Up Drilling Rig. A Master Application Template (MAT) and the supporting Subsidiary Application Template (SAT) will be submitted in support of activities carried out. A PON5 will also be submitted to OPRED for application to abandon the well.	Meets the OGA and HSE regulatory requirements.
6. Drill Cuttings	
n/a	n/a
7. Interdependencies	
The whole of the Bains single well WHPS complete with the integrated suction piles can be completely removed. Small amounts of seabed sediment will be displaced as the suction piles are extracted from the seabed. It is anticipated that existing localised seabed scour will recover following removal of the causative WHPS. The Bains pipelines are connected to the Morecambe DP1 platform. To promote logistical efficiency we propose to decommission the ends at the DP1 platform at the same time as the wider Morecambe Hub decommissioning activities. Bains-specific decommissioning activities will be timed to coincide with other decommissioning activities within the wider Morecambe Area. Both pipelines cross over the Isle of Man Electrical Interconnector routed from Bispham to Douglas. Pipeline stabilisation features such as gabion sacks and grout bags will be removed as part of the pipeline decommissioning activities, but deposited rock and fronded mattresses will remain *in situ*. The Morecambe Hub is owned by Spirit Energy Production Limited, formerly Hydrocarbon Resources Limited.	

1.6 Field Location including Field Layout and Adjacent Facilities

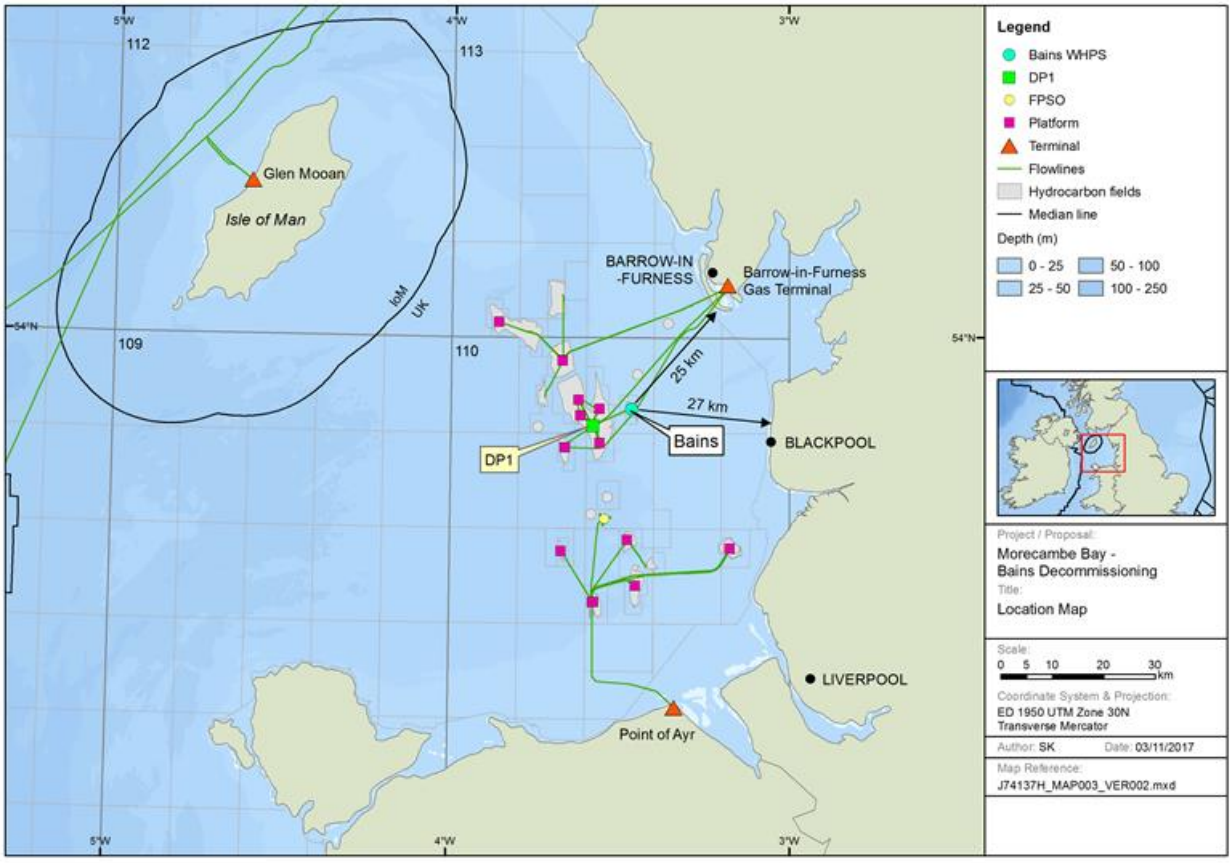


Figure 1.6.1: Field Location in East Irish Sea – Morecambe Bay

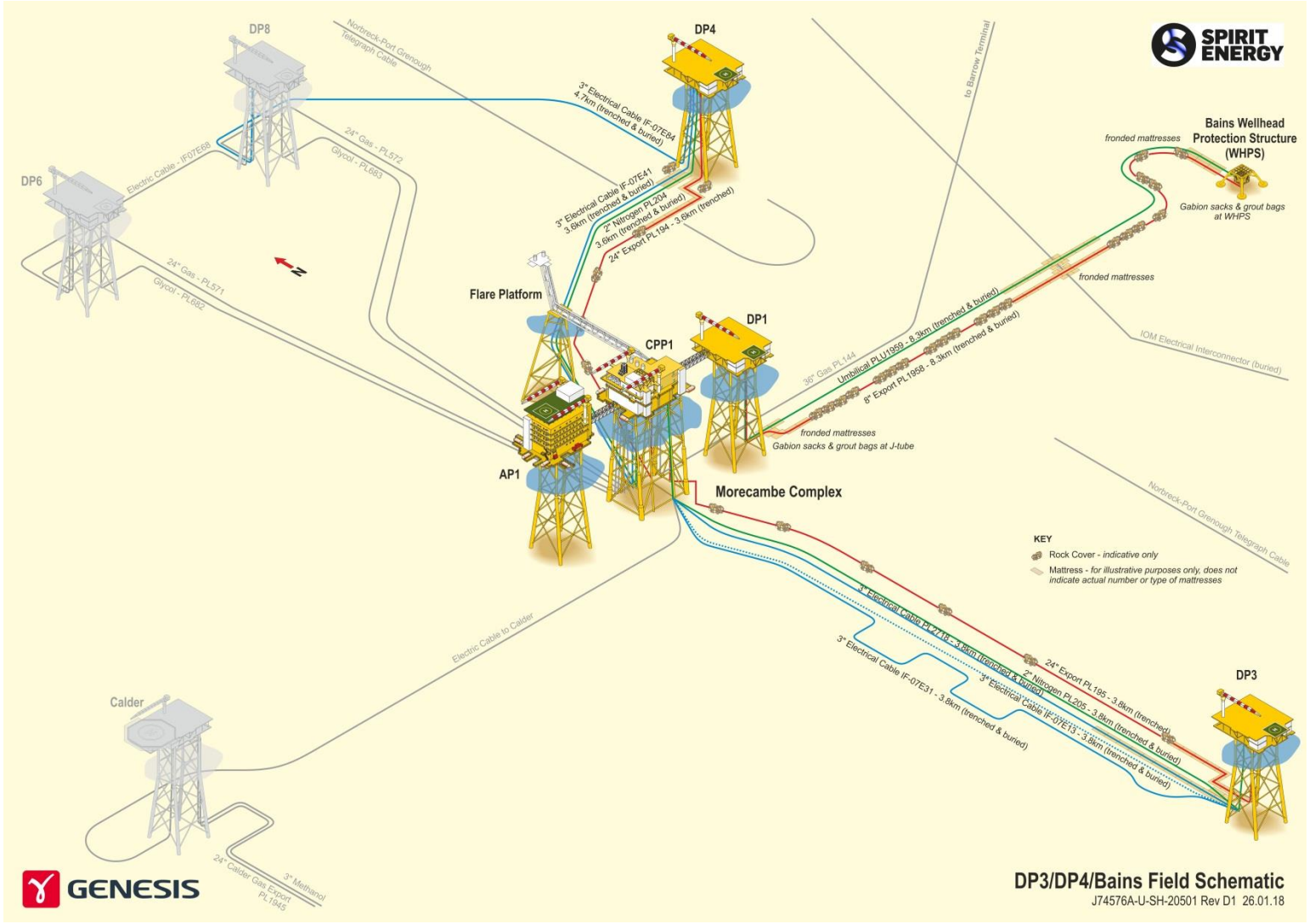


Figure 1.6.2: Facilities adjacent to Bains

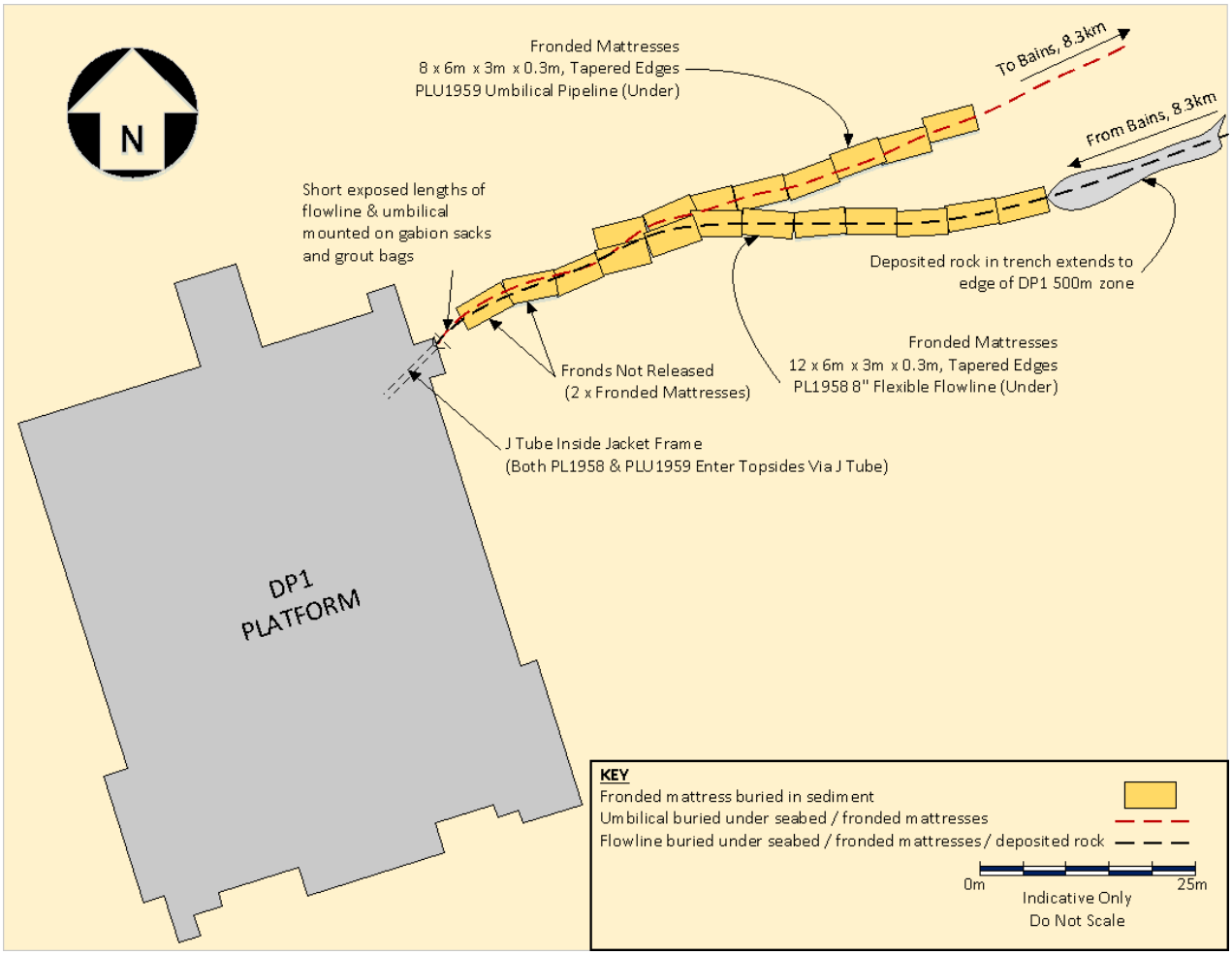


Figure 1.6.3: Overview of DP1 Approaches

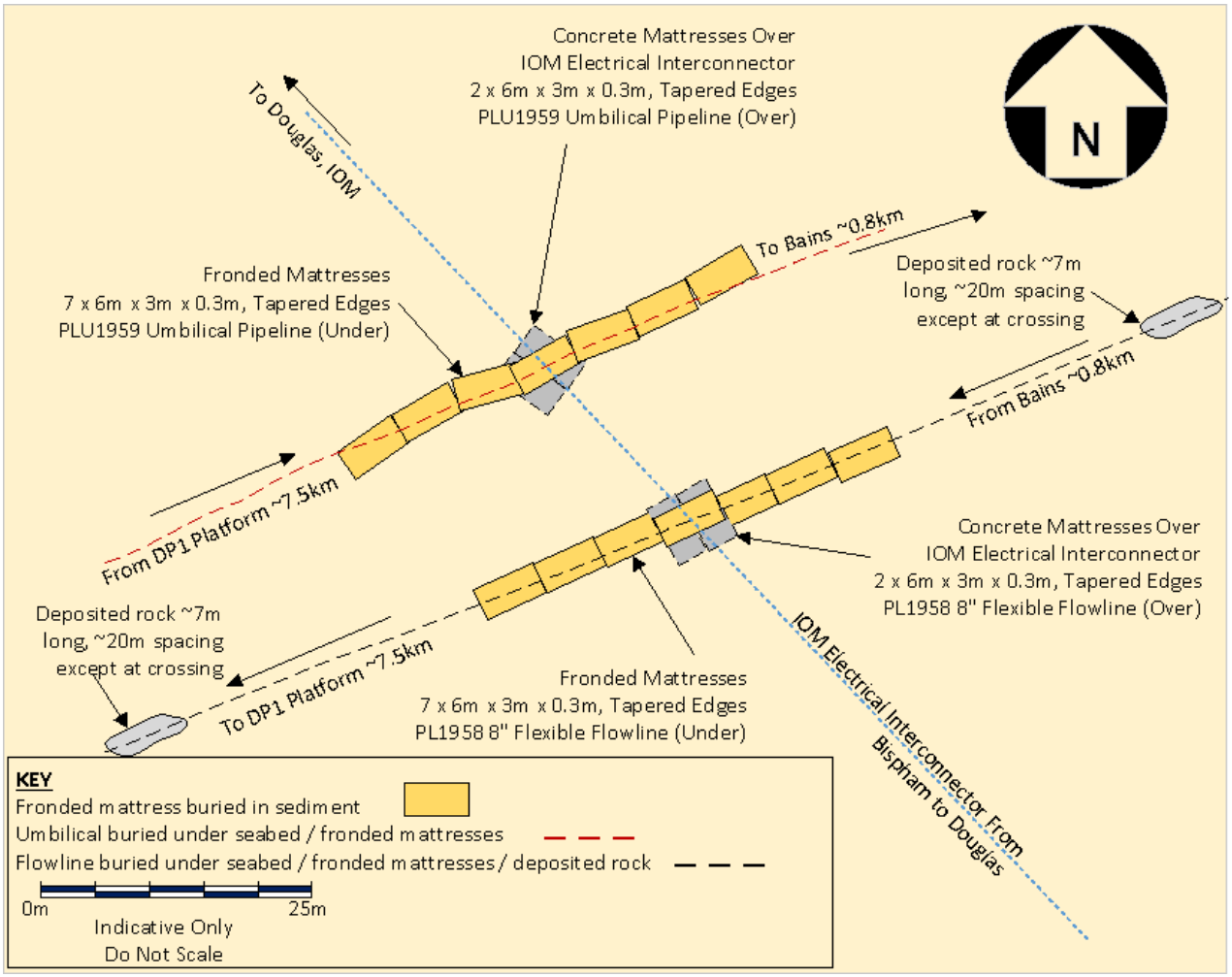


Figure 1.6.4: Overview of IOM Electrical Interconnector Crossing

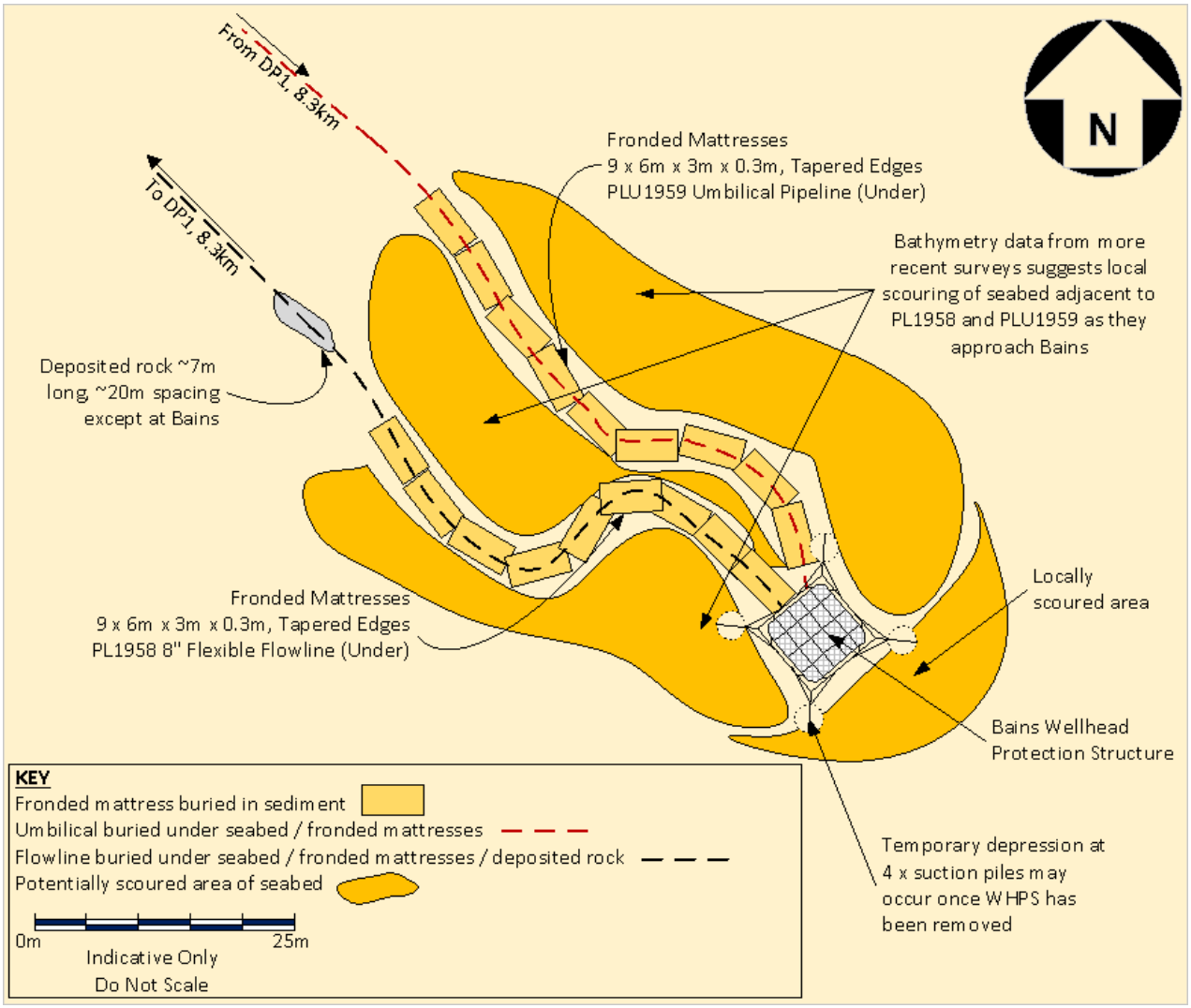


Figure 1.6.5: Overview of Bains Approaches

Table 1.6.1: Adjacent Facilities					
Owner	**Name**	**Type**	**Distance/Direction**	**Information**	**Status**
Spirit Energy	DP1 Platform	Drilling Platform	Approx. 8km west south west from Bains, bridge linked to CPP1 platform	Bains exports gas via PL1958 and DP1 provides power, controls and chemicals to Bains via PLU1959	Operational
Spirit Energy	CPC	Central Production Complex	Approx. 8km west south west from Bains	Comprises three platforms (DP1, CPP1 and AP1), all bridge linked	Operational
Spirit Energy	DP4 Platform	Drilling Platform	Approx. 3.5km NNE of CPP1 platform	DP4 Exports gas via CPP1	Operational
MCC	IOM IE	Electrical Cable	Approx. 7.5km south south west from Bains	Buried 1.5m under the surface of the seabed	Operational
Impacts of Decommissioning Proposals					
There are no direct impacts on adjacent facilities from the decommissioning works outside the DP1 platform. Timing of works within the DP1 500m zone will be agreed in consideration of decommissioning the wider portfolio of Spirit Energy assets within the Morecambe area. Where crossings are overlain with fronded mattresses, it is proposed to decommission the fronded mattresses and infrastructure beneath by leaving them *in situ.* As part of the Environmental Appraisal we have considered potential cumulative effects of activities in the area, including decommissioning and other industries in the area. This has been done using data that are publicly available. However, operational windows tend to include a degree of flexibility so it is not possible to be precise. As part of the operational phase any potential impacts will be mitigated in two ways: the first is via direct communication with the parties involved, and the second is via submission of the Regulatory Permits.					

1.7 Industrial Implications

The subsea well abandonment will be completed using a jack-up drilling rig. Some preparatory work for Bains 110/3c-5 will be undertaken by a Diving Support Vessel (DSV).

The activities to decommission the Bains installations and pipelines will be completed using a DSV, Construction Support Vessel (CSV) or Multi Support Vessel (MSV).

It is Spirit Energy's intention to develop a contract strategy that will result in an efficient and cost-effective execution of the decommissioning works. Where appropriate existing framework agreements may be used for decommissioning of the pipelines and pipeline stabilisation features. The decommissioning schedule is extended to allow flexibility for when decommissioning operations are carried out and completed.

2. DESCRIPTION OF ITEMS TO BE DECOMMISSIONED

2.1 Installations: Subsea including Stabilisation Features

Table 2.1.1: Installations: Subsea including Stabilisation Features					
Subsea installations including Stabilisation Features	**Number**	**Size/ Weight (Te)**	**Location**		**Comments/Status**
Wellhead (110/3c)	1	14.2	WGS84 Decimal	53.8750°N -03.4616°E	Well is shut-in
			WGS84 Decimal Minute	53° 52.5020"N -03° 28.0295"E	
Tree	1	27.2	As per wellhead 110/3c		Tree is located on top of wellhead 110/3c-5.
WHPS including piles	1	75.4	WGS84 Decimal	53.8750°N -03.4616°E	Secured with four suction piles[1]
			WGS84 Decimal Minute	53° 52.5021"N -03° 28.0295"E	

[1] The WPHS is slightly off centre compared to the Bains 110/3c-5 wellhead and Xmas tree

2.2 Pipelines including Stabilisation Features

Table 2.2.1: Pipeline/Flowline/Umbilical Information									
Description	**Pipeline Number (as per PWA)**	**Diameter (NB) (inches)**	**Length (km)[2]**	**Description of Component Parts**	**Product Conveyed**	**From – To End Points**	**Burial Status**	**Pipeline Status**	**Current Content**
Gas pipeline	PL1958	8	8.309	Flexible flowline	Gas and condensate	Xmas tree tie-in spool at Bains 110/3c to ESDV at top of riser at DP1 platform	Trenched and buried	Shut in	Gas, Condensate
Umbilical pipeline	PLU1959	4	8.335	Umbilical consisting of hydraulic hoses and electrical cables	Methanol, glycol, water	Topside termination box at DP1 to Xmas tree stab plate at Bains 110/3c	Trenched and buried	Shut in	Methanol, Water, Glycol

[2] Initial 59m length is within J tube on DP1, not on seabed.

Table 2.2.2: Subsea Pipeline Stabilisation Features				
Stabilisation Feature	**Total Number**	**Total Weight (Te)**	**Location(s)**	**Exposed/Buried/Condition**
Concrete mattresses (fronded)	56	553.6	12 (PL1958) + 8 (PLU1959) 6m x 3m x 0.3m at DP1 Platform; 7+2 x 6m x 3m x 0.3m (PL1958) at Bispham/IOM Cable Crossing; 7+2 x 6m x 3m x 0.3m (PLU1959) at Bispham/IOM Cable Crossing; 9 (PL1958) + 9 (PLU1959) x 6m x 3m x 0.3m at Bains Approach.	All fronded mattresses on approach to DP1 platform and Bispham to IOM Electrical Interconnector Crossing are buried and indistinguishable from the seabed. The situation at Bains is more complicated as the area is subject to scour. Parts of the fronded mattress concrete bases may be exposed.
Gabion sacks	11	10	3 at DP1 as support and protection for PLU1959 8 at Bains as support and protection for PL1958	Exposed
Grout bags[3]	664	16.6	147 at DP1 Platform 517 at Bains	Exposed and mounted on top and at the side of the gabion sacks
Deposited rock	n/a	10,294	Deposited throughout the length of PL1958 in >7m long sections at 20m intervals	Buried under seabed sediment within the trench

[3] The number of grout bags has been estimated using available data including sketches and as-built drawings. There is a large element of uncertainty associated with the exact numbers quoted.

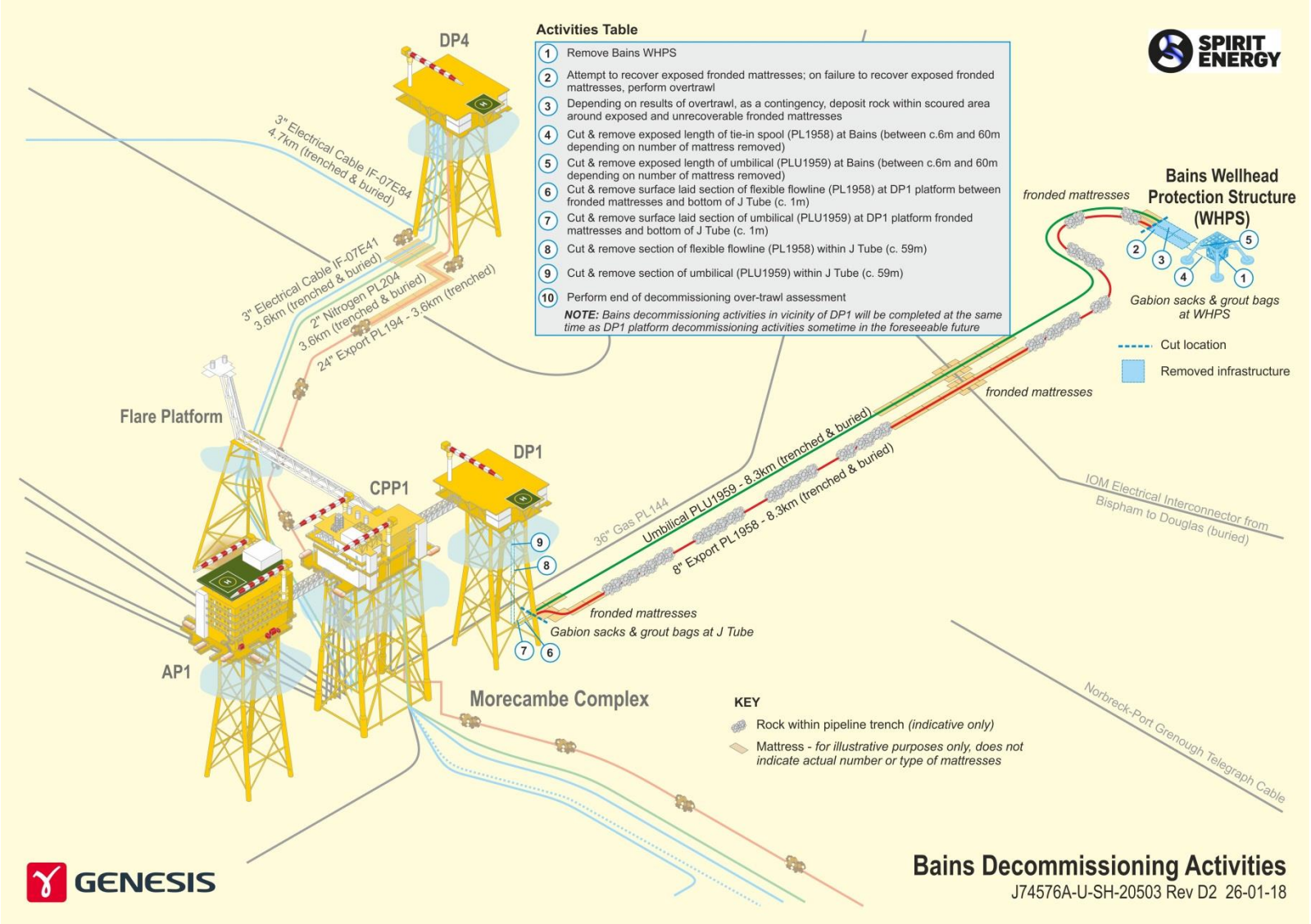


Figure 2.2.1: Overview of Bains decommissioning proposals

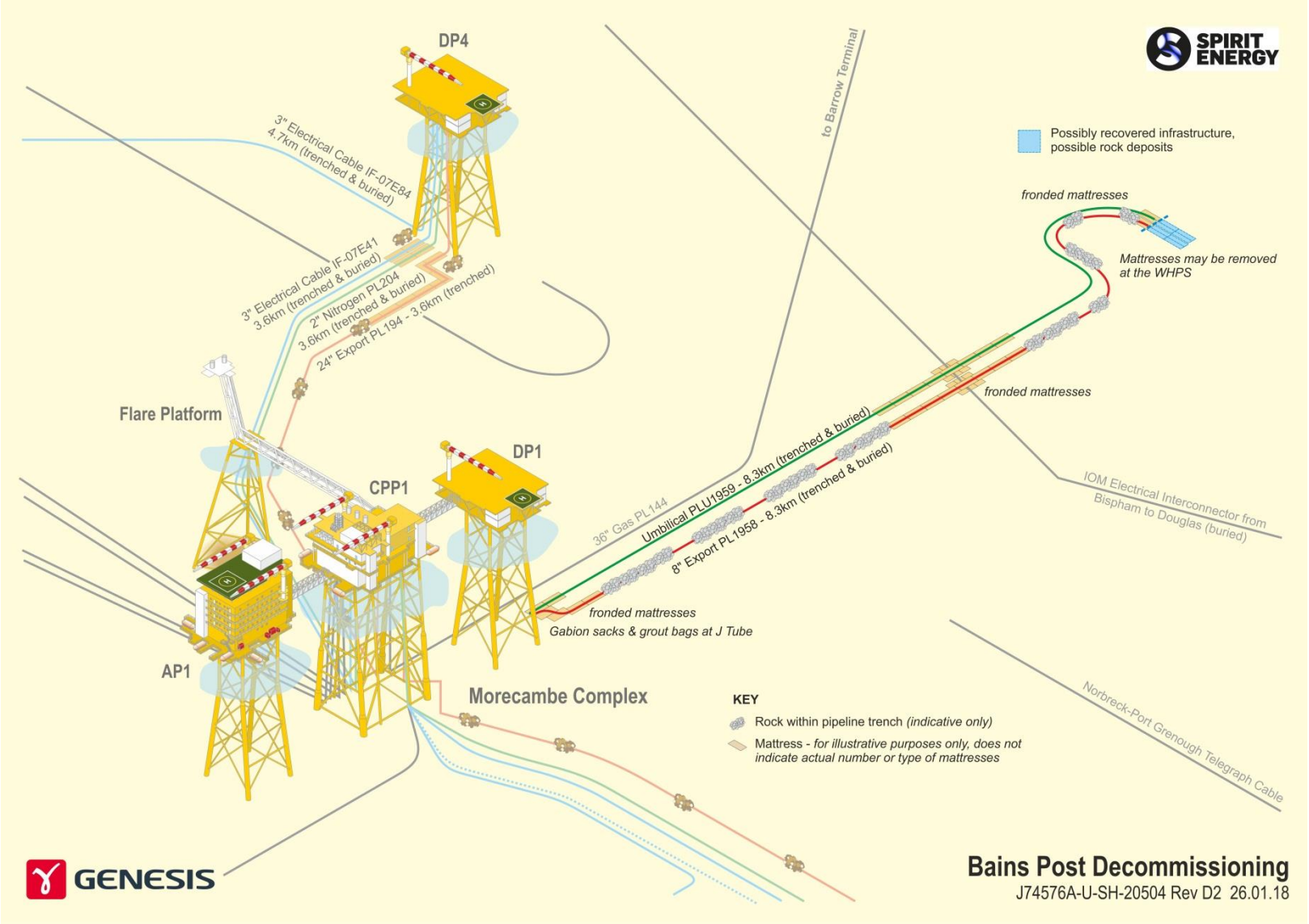


Figure 2.2.2: Bains Area after decommissioning is completed

2.3 Wells

Table 2.3.1: Well Information			
Well ID	**Designation**	**Status**	**Category of Well**
110/3c-5	Gas production	Shut in	SS-3-3-3

For details of well categorisation see the Oil & Gas UK Guidelines for the Abandonment of Wells. Issue 5, July 2015, Appendix D.

2.4 Material Inventory Estimates

Table 2.4.1: Aspirational Inventory Disposition[4]				
Inventory	**Total Inventory Tonnage**	**Planned tonnage to shore[5]**	**Planned tonnage decommissioned *in situ***	**Planned tonnage deferred (DP1)[6]**
Installations	75.4	75.4	0	0
Pipelines	1,283.7	555.7	716.4	11.6

All recovered material will be transported onshore for re-use, recycling or disposal. It is not possible to predict the market for reusable materials with any confidence; the figures in Table 2.4.1 are therefore aspirational.

Please refer Table 4.5.1 in the Environmental Appraisal [2].

[4] Quantities exclude deposited rock;
[5] Assumes fronded mattresses left *in situ*;
[6] This figure accounts for the ends of the flexible flowline and umbilical as well as local gabion sacks and grout bags that will be recovered along with the DP1 platform.

3. REMOVAL AND DISPOSAL METHODS

Waste will be dealt with in accordance with the Waste Framework Directive. The reuse of an installation or pipelines (or parts thereof) is first in the order of preferred waste management options. Options for the reuse of installations or pipelines (or parts thereof) are currently under investigation. Waste generated during decommissioning will be segregated by type and periodically transported to shore in an auditable manner through licensed waste contractors. Steel and other recyclable metals are estimated to account for the greatest proportion of the materials inventory.

3.1 Subsea Installations and Associated Stabilisation Features

Table 3.1.1: Subsea Installations and Associated Stabilisation Features

Subsea installations and stabilisation features	Number	Option	Disposal Route (if applicable)
Wellhead & tree	1	Complete removal following well abandonment	Recovery to shore for re-use or recycling
Wellhead protection structure	1	Complete removal	Recovery to shore for re-use or recycling

3.2 Pipelines

Decommissioning Options:

The following decommissioning options are considered and identified in terms of applicability to the pipelines in [1]:

1) Complete removal;

2) Leave *in situ*, making pipeline ends safe.

3.2.1 Comparative Assessment Method

A comparative assessment of the decommissioning options was performed in accordance with the Spirit Energy Guidance for Comparative Assessments for Decommissioning. Each decommissioning option was qualitatively assessed against Safety, Environment, Technical and Societal and Cost. Refer [1] for details.

3.2.2 Outcome of Comparative Assessment:

Table 3.2.1: Outcomes of Comparative Assessment		
Pipeline or Group	**Decommissioning Option**	**Outcome**
PL1958	Leave *in situ*.	The pipeline is trenched and buried with no exposures recorded since original installation in 2002. At DP1 and the Bispham to IOM Electrical Interconnector crossing the pipeline ends are buried under several fronded mattresses and these can essentially be considered homogenous with the local seabed. On the approach to Bains the situation is more complicated due to seabed scour. Here if mattress edges are sufficiently exposed we would propose to attempt recovery and recover any associated length of pipeline subsequently exposed by this activity as far as the extent of mattresses removed. Therefore, as a result of the foregoing we believe that the pipeline will not pose a snagging hazard. Therefore, we propose to leave this pipeline *in situ*. Although some minor seabed disturbance associated with dealing with pipeline ends will occur, this solution will result in no seabed disturbance for the majority of the pipeline. Future pipeline burial surveys will be required but these are unlikely to document a change in burial status. These contribute to the proposed recommendation. Refer Appendix A.1 for pipeline burial profile.
PLU1959	Leave *in situ*.	Please refer outcome for PL1958. Refer Appendix A.2 for pipeline burial profile.

3.3 Pipeline Stabilisation Features

All gabion sacks and grout bags will be recovered to shore. All indications are that at DP1 and the Bispham to IOM Electrical Interconnector crossing the fronded mattresses have performed as designed and so they will be left *in situ*.

Depending on the extent of scour, attempts will be made to recover fronded mattresses on the approach to Bains. However, should visibility be poor or recovery is not possible, rock with a small grain size (20 to 90mm range) may need to be deposited locally; this will be preceded by an overtrawl to establish if this is necessary.

Table 3.3.1: Pipeline Stabilisation Features		
Stabilisation features	**Number**	**Disposal Route (if applicable)**
Concrete mattresses (fronded)	56	Unless exposed and recoverable (e.g. two fronded mattresses not activated on DP1 approach), leave *in situ*. If not recoverable but established by overtrawl as potential snagging risk (e.g. on approach to Bains), implement contingency plan of depositing rock (estimated max. 320m^3 (520Te) adjacent to exposed mattress edges within the potentially scoured area).
Gabion sacks	11	Recover to shore for re-use, recycling or disposal.
Grout bags, commonly placed adjacent to or over concrete mattresses	664	Recover to shore for re-use, recycling or disposal.
Deposited rock	10,294Te	Leave *in situ*

3.4 Waste Streams

Table 3.4.1: Waste Stream Management Methods	
Waste Stream	**Removal and Disposal method**
Bulk liquids	The pipeline will be pigged, flushed and left filled with seawater. The methanol will be removed from the umbilical pipelines prior to the start of the decommissioning activities. Any residual fluids from within these pipelines will be released to marine environment under permit. Further cleaning and decontamination will take place onshore prior to re-use or recycling.
Marine growth	Where necessary and practicable to allow access inside the WHPS some marine growth will be removed offshore. The remainder will be brought to shore and disposed of according to guidelines and company policies.
NORM	Tests for NORM will be undertaken offshore by the Radiation Protection Adviser and any NORM encountered will be dealt with and disposed of in accordance with guidelines and company policies and under appropriate permit.
Asbestos	No asbestos has been documented specifically for Bains but in the event that small quantities are found they will be dealt with and disposed of in accordance with guidelines and company policies.
Other hazardous wastes	Will be recovered to shore and disposed of according to guidelines and company policies and under appropriate permit.
Onshore Dismantling sites	Appropriate licensed sites will be selected. The dismantling site must demonstrate proven disposal track record and waste stream management throughout the deconstruction process and demonstrate their ability to deliver innovative re-use and recycling options.

Table 3.4.2: Re-use, Recycle & Disposal Aspirations for Recovered Material			
Inventory	**Re-use**	**Recycle**	**Disposal**
Installations	<5%	>95%	<5%
Pipelines	<5%	>95%	<5%

Refer to [2] for further details.

4. ENVIRONMENTAL APPRAISAL OVERVIEW

4.1 Environmental Sensitivities

Environmental sensitivities are discussed in the Environmental Appraisal [2].

4.2 Potential Environmental Impacts and their Management

There will be some planned and unplanned environmental impacts arising from decommissioning of Bains (110/3c-5). Long-term environmental impacts from the decommissioning operations are expected to be low. Incremental cumulative impacts and trans-boundary effects associated with the planned decommissioning operations are also expected to be low. OPPC permit requirements will be addressed as part of the environmental management process. There will be a requirement for a new Environmental Appraisal to be produced and submitted to OPRED should the Decommissioning Programmes change.

For further details please refer Environmental Appraisal [2].

5. INTERESTED PARTY CONSULTATIONS

5.1 Consultations Summary

During the public consultation period (23 March 2018 to 24 April 2018), copies of the Decommissioning Programmes and supporting documents were forwarded to the following Statutory Consultees:

- The National Federation of Fishermen's Organisations (NFFO);
- The Scottish Fishermen's Federation (SFF);
- The Northern Ireland Fish Producer's Organisation (NIFPO); and,
- Global Marine Group (GMG).

Meetings and telephone calls have been held with NFFO to advise of progress and to provide more detail of the proposals.

Copies of the Decommissioning Programmes and supporting documents were also made available as a download from the Spirit Energy Decommissioning website: www.spirit-energy.com/bains.

A bound copy of the Decommissioning Programmes was also made available in the Barrow-in-Furness Main Public Library.

A public notice was published in both "The Mail" and the "London Gazette" on 23 March 2018 (please refer to Appendix B.1 for a copy of the public notice). The public notice gave instructions for representations to be made in writing by Tuesday 24 April 2018. Spirit Energy received no comments or any written or verbal representation from the public in direct response to the public notice or during the public consultation period.

Copies were also submitted for consideration to OPRED.

Table 5.1.1: Summary of Stakeholder Comments

Who	Comment	Response
INFORMAL CONSULTATIONS		
ANIFPO	We discussed the decommissioning proposals with ANIFPO via teleconference 21 November 2017. We also sought further feedback from ANIFPO when the Public Notice was published.	ANIFPO had no adverse comment to make regarding the proposals.
NFFO	We discussed the decommissioning proposals with NFFO via teleconference 20 November 2017. We had been advised previously by NFFO that the predominant type of fishing includes queen scallops, small prawns and white fish. i.e. Bottom trawling.	NFFO had no adverse comment to make regarding the proposals.
NIFPO	We discussed the decommissioning proposals with NIFPO via teleconference 29 November 2017. We had been advised previously by NIFPO that the predominant type of fishing includes queen scallops, small prawns and white fish. i.e. Bottom trawling.	NIFPO had no adverse comment to make regarding the proposals. However, they would prefer that no rock were deposited.

SFF	We discussed the decommissioning proposals with SFF in a meeting 22 November 2017. We had been advised previously by SFF that the predominant type of fishing includes queen scallops, small prawns and white fish. i.e. Bottom trawling.	SFF had no adverse comment to make regarding the proposals. However, due to the nature of fishing activity in the area they would prefer quantities of rock to be minimised. As part of contingency activities they would prefer smaller granules of rock (19mm to 90mm) to be used, should deposits of rock be required.
STATUTORY CONSULTATIONS		
NFFO	NFFO had no further comments to add at this time, other than it would be preferred where possible that all subsea structures and associated pipework is removed.	The WHPS (subsea structure) will be completely removed. The NFFO do recognise that the proposals presented in the decommissioning programmes reflect potential difficulties with removing the fronded mattresses on the pipelines.
NIFPO	If nothing has changed since our last discussion on the phone, the NIFPO are happy with the proposals discussed at the time. NIFPO had no adverse comment to make.	Noted.
SFF	Given the locality SFF are comfortable to align with NIFPO and NFFO comments regarding the Decommissioning Programmes. SFF had no adverse comment to make.	Noted.
Global Marine Group	It is apparent that the majority of the route is in a relatively featureless area and the only cable (according to our database) that crosses or comes in close proximity to both of the decommissioning projects is the Bispham – IOM Interconnector cable crossing (around 17m water depth) which has been well documented in the decommissioning reports.	Noted.
Public	No concerns or objections were raised.	Noted.

6. PROGRAMME MANAGEMENT

6.1 Project Management and Verification

A Spirit Energy 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 Spirit Energy Health and Safety principles. Changes to the Decommissioning Programmes will be discussed with OPRED with any necessary approvals sought.

6.2 Post-Decommissioning Debris Clearance and Verification

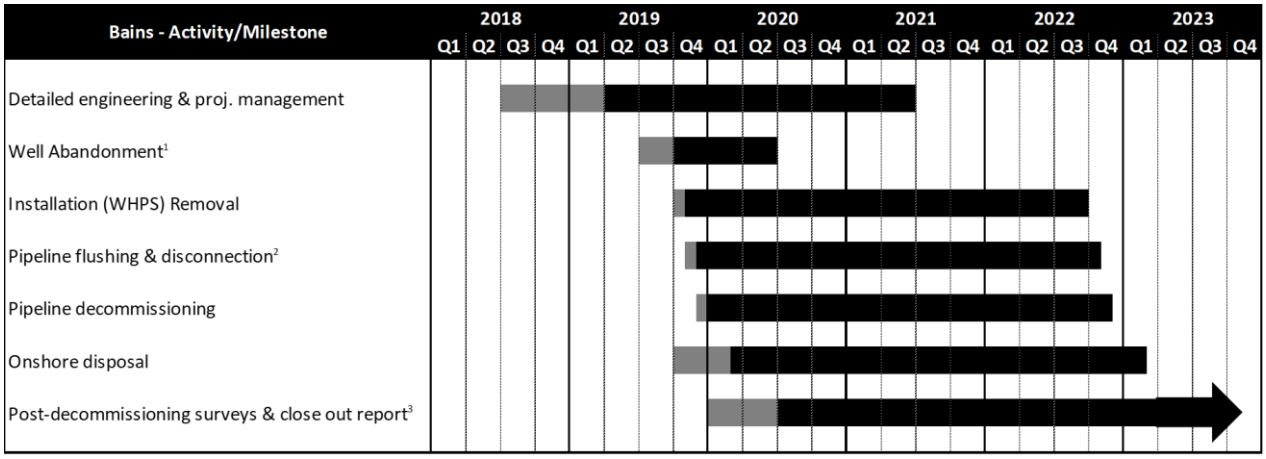
The Bains installation sites and the 500m safety zones and the pipeline corridors will be subject to debris and trawlability surveys when decommissioning activities have concluded. We propose to defer decommissioning activities at DP1 until the wider Morecambe Hub is decommissioned.

Any operational oil and gas related debris on the seabed will be recovered for onshore disposal or recycling in line with existing disposal methods. Independent verification of seabed state will be obtained by trawling the WHPS and pipeline area and this will be supported by a Clear Seabed Certificate. This will be included in the OPRED Close Out Report, and sent to the Seabed Data Centre (Offshore Installations) at the Hydrographic Office.

6.3 Schedule

A proposed schedule is provided in Figure 6.3.1. The activities are subject to the acceptance of the Decommissioning Programmes presented in this document and any unavoidable constraints (e.g. vessel availability) that may be encountered while executing the decommissioning activities. Therefore, activity schedule windows have been included to account for this uncertainty.

The commencement of offshore decommissioning activities will depend on commercial agreements and commitments, but where possible will be timed to coincide with other offshore operations near the Morecambe Hub Area. The final sequence of activities could be subject to change.



Notes / Key

Earliest potential activity

Activity window to allow commercial flexibility associated with well abandonment and decommissioning activities

1. Current indications are that well abandonment will be carried out in 2019
2. Flexible flowline (and umbilical) will be prepared for flushing prior to being disconnected from the Xmas tree
3. Removal of the WHPS will be done sometime after well abandonment activities have been completed, but timed to coincide with other decommissioning
4. Decommissioning of the flexible flowline and umbilical will be carried out in connection with other decommissioning operations in the wider Morecambe Hub Area
5. Post decommissioning surveys and close out reports will be prepared on completion of Bains decommissioning activities

Figure 6.3.1: Gantt Chart of Project Plan

6.4 Costs

Decommissioning costs will be provided separately to OPRED and OGA.

6.5 Close Out

After decommissioning has been completed, pipeline status surveys and environmental surveys will be completed with the findings being sent to OPRED in the Close Out report as required in the OPRED Guidance Notes. This report will be submitted within a timescale to be agreed with OPRED. The report will explain any variance from the Decommissioning Programmes.

6.6 Post-Decommissioning Liability, Monitoring and Evaluation

The frequency of future surveys and the requirement for legacy and liability management will be described in the Close Out report and agreed with OPRED. The approach will be supported with a risk assessment. Residual liability will remain with the Section 29 holders identified in Table 1.4.2 and Table 1.4.4.

Unless agreed otherwise in advance with OPRED, Spirit Energy will remain the focal point for such matters, such as any change in ownership, for example.

7. SUPPORTING DOCUMENTS

Table 6.6.1: Supporting Documents	
Item Number, Document Number & Title	
[1]	CEU-DCM-EIS0046-REP-0002, Comparative Assessment, November 2017
[2]	CEU-DCM-EIS0046-REP-0003, Environmental Appraisal, November 2017

APPENDIX A BURIAL PROFILES

Appendix A.1 PL1958 Burial Profile

PL1958 is a flexible 8" gas export flowline that is approximately 8.3km long and routed from the Morecambe DP1 platform to Bains 110/3c. PL1958 crosses over the Bispham to Douglas IOM Electrical Interconnector at KP7.545.

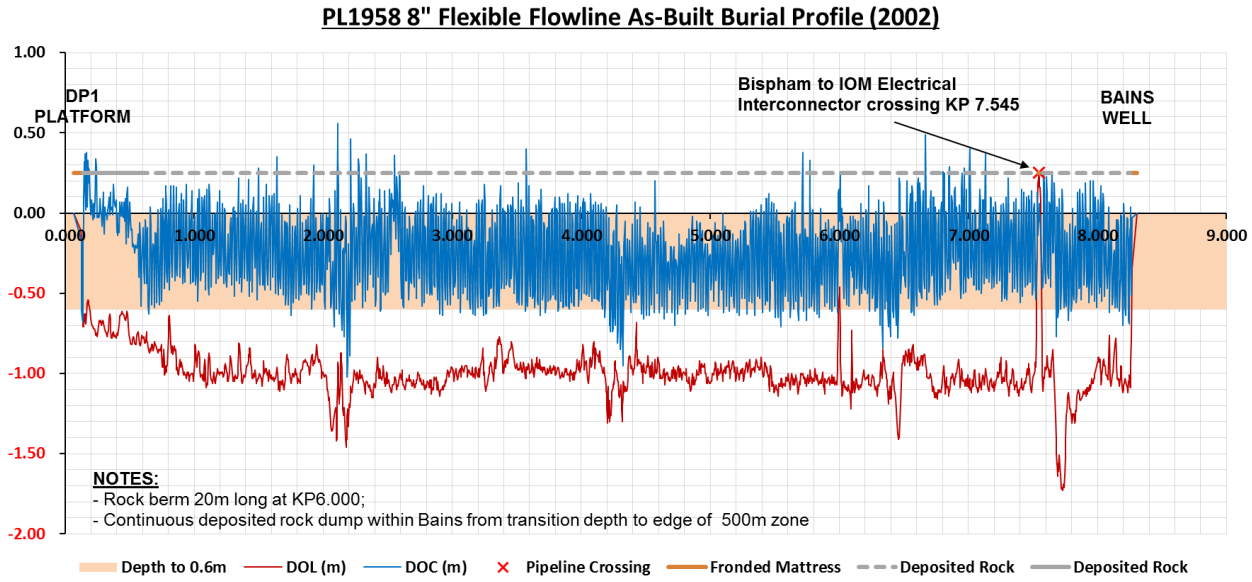


Figure A.1: PL1958[7] As-built (2002) Burial Profile

Appendix A.2 PLU1959 Burial Profile

PLU1959 is an umbilical line that provides power, control and chemicals to Bains 110/3c. It is approximately 8.3km long and routed from the Morecambe DP1 platform to Bains 110/3c. PLU1959 crosses over the Bispham/IOM Electrical Interconnector at KP7.534.

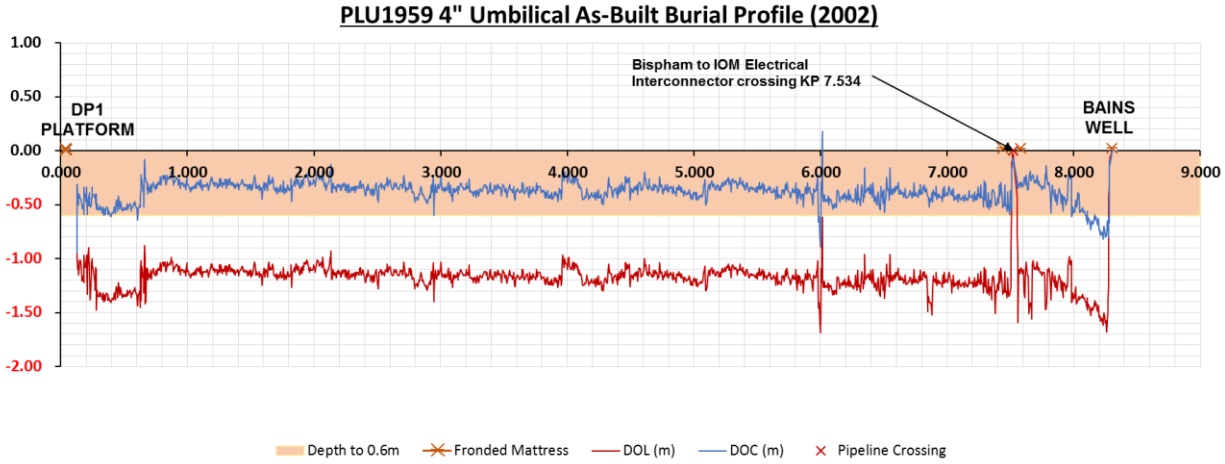


Figure A.2: PLU1959 As-Built (2002) Burial Profile[8]

[7] In this instance the KPs start at Morecambe DP1 platform topside connection, with the seabed section starting at KP 0.059.

[8] The original 'as-built' survey data indicates that burial of much of the umbilical was out of detection range and

APPENDIX B PUBLIC NOTICE & CONSULTEE CORRESPONDENCE

Appendix B.1 Public Notices

SPIRIT ENERGY PRODUCTION UK LIMITED
THE PETROLEUM ACT 1998
BAINS DECOMMISSIONING PROJECT

Spirit Energy Production Ltd has submitted, for the consideration of the Secretary of State for Business, Energy & Industrial Strategy, draft Decommissioning Programmes for the Bains installations and associated pipelines in accordance with the provisions of the Petroleum Act 1998. It is a requirement of the Act that interested parties be consulted on such decommissioning proposals.

The facilities covered by the Decommissioning Programmes are:

- The Bains subsea well and installation (a wellhead protection structure), offshore 27km west of Blackpool in UK blocks 110/3c in the East Irish Sea including the wellhead, wellhead protection structure and tree;
- The two associated pipelines (PL1958, PLU1959).

Spirit Energy Production Limited hereby gives notice that a summary of the Bains Decommissioning Programmes can be viewed at the internet address:
https://www.spirit-energy.com/bains

Alternatively a hard copy of the Programmes can be inspected by contacting Ross Davidson, Senior Public Relations Manager, at the following location during office hours:

Spirit Energy Limited
iQ Building
15 Justice Mill Lane
Aberdeen
AB11 6EQ

Hard copies of the Programmes will also be made available at Barrow-in-Furness Library, Ramsden Square, Barrow-in-Furness, LA14 1LL.

Representations regarding the Bains Decommissioning Programmes should be submitted in writing to Ross Davidson, Senior Public Relations Manager, at the above address. Representations should be received by Tuesday 24th April 2018, and should state the grounds upon which any representations are being made.
Date: 23 March, 2018
Ross Davidson, Senior Public Relations Manager, Spirit Energy Limited, iQ Building, 15 Justice Mill Lane, Aberdeen, AB11 6EQ

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Ross Davidson, Senior Public Relations Manager, Spirit Energy Limited, iQ Building, 15 Justice Mill Lane, Aberdeen, AB11 6EQ

Date: 23 March, 2018 (2995542)

Public Notices: The Mail & The London Gazette (published 23 March 2018)

Appendix B.2 NFFO – Mr Ian Rowe via Email

From: Ian Rowe [mailto:IRowe@nffo.org.uk]
Sent: 23 April 2018 11:01
To: Davidson, Ross <ross.davidson@centrica.com>
Subject: EXTER RE: Submission of Draft Bains Decommissioning Programmes

Good morning Ross
Thanks for the email, I can confirm I have read through the decom program and NFFO have no comments to add at this time other than we would prefer where practical all sub sea structure and associated pipe work is removed.
Kind regards
Ian Rowe, NFFO Services Limited

From: Davidson, Ross
Sent: 23 March 2018 09:31
To: info@nffoservices.com
Cc: Axon, Simon; Aberdeen DC
Subject: Submission of Draft Bains Decommissioning Programmes

Dear Ian,
Spirit Energy Production UK Ltd has submitted, for the consideration of the Secretary of State for Business, Energy & Industrial Strategy, draft Decommissioning Programmes for the Bains installations and associated pipelines in accordance with the provisions of the Petroleum Act 1998. It is a requirement of the Act that interested parties be consulted on such decommissioning proposals.
The facilities covered by the Decommissioning Programmes are:

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- The two associated pipelines (PL1958, PLU1959).

Spirit Energy Production UK Ltd hereby gives notice that the Bains Decommissioning Programmes can be viewed at the internet address: www.spirit-energy.com/bains
Alternatively, electronic copies of the Decommissioning Programmes, Comparative Assessment and Environmental Appraisal are attached to this email.
Separately you will receive a document transmittal from our document control department, please can you return this to acknowledge receipt.
Please can you confirm that you've received all the information you require, and if you have any questions or concerns, please make any representations to the undersigned by Tuesday, 24 April, 2018.
Best regards,
Ross Davidson, Senior Public Relations Manager, SPIRIT ENERGY | IQ Building | 15 Justice Mill Lane | Aberdeen AB11 6EQ | UK

Appendix B.3 SFF – Mr Raymond Hall via Email

From: Raymond Hall [mailto:R.Hall@sff.co.uk]
Sent: 24 April 2018 12:45
To: Davidson, Ross
Cc: Steven Alexander; Axon, Simon
Subject: RE: Submission of Draft Bains Decommissioning Programmes

Good afternoon Ross
Sincere apologies for not responding sooner, regarding the Draft Bain's Decommissioning Programmes and given its locality SFF are comfortable to align with NIFPA and NFFO comments regarding the DP, many thanks.
Kind regards
Raymond Hall, Industry Advisor, Scottish Fishermen's Federation

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From: Davidson, Ross
Sent: 23 March 2018 09:32
To: R.Hall@sff.co.uk
Cc: s.alexander@sff.co.uk; Axon, Simon; Aberdeen DC
Subject: Submission of Draft Bains Decommissioning Programmes

Dear Raymond,
Spirit Energy Production UK Ltd has submitted, for the consideration of the Secretary of State for Business, Energy & Industrial Strategy, draft Decommissioning Programmes for the Bains installations and associated pipelines in accordance with the provisions of the Petroleum Act 1998. It is a requirement of the Act that interested parties be consulted on such decommissioning proposals.
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Please can you confirm that you've received all the information you require, and if you have any questions or concerns, please make any representations to the undersigned by Tuesday, 24 April, 2018.
Best regards,
Ross Davidson, Senior Public Relations Manager, SPIRIT ENERGY | IQ Building | 15 Justice Mill Lane | Aberdeen AB11 6EQ | UK

Appendix B.4 NIFPO – Mr Wayne Sloan via Email

From: Wayne Sloan [mailto:waynes@fpoffshoreservices.co.uk]
Sent: 26 April 2018 13:57
To: Axon, Simon
Cc: Davidson, Ross
Subject: Re: REQUEST: Submission of Draft Bains Decommissioning Programmes

Hi Simon,
I apologise for not getting back to you sooner about this. And many thanks (and Ross) for having the patience to remind me.
If nothing has changed since our last discussion on the phone then I would have nothing to add as I was happy with what we discussed at the time.
Many thanks again for your patience. Hope you both Have a good weekend.
Kind Regards
Wayne Sloan

From: Davidson, Ross
Sent: 23 March 2018 09:30
To: waynes@fpoffshoreservices.co.uk
Cc: Axon, Simon; Aberdeen DC
Subject: Submission of Draft Bains Decommissioning Programmes

Dear Wayne,
Spirit Energy Production UK Ltd has submitted, for the consideration of the Secretary of State for Business, Energy & Industrial Strategy, draft Decommissioning Programmes for the Bains installations and associated pipelines in accordance with the provisions of the Petroleum Act 1998. It is a requirement of the Act that interested parties be consulted on such decommissioning proposals.
The facilities covered by the Decommissioning Programmes are:

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Alternatively, electronic copies of the Decommissioning Programmes, Comparative Assessment and Environmental Appraisal are attached to this email.
Separately you will receive a document transmittal from our document control department, please can you return this to acknowledge receipt.
Please can you confirm that you've received all the information you require, and if you have any questions or concerns, please make any representations to the undersigned by Tuesday, 24 April, 2018.
Best regards,
Ross Davidson, Senior Public Relations Manager, SPIRIT ENERGY | IQ Building | 15 Justice Mill Lane | Aberdeen AB11 6EQ | UK

Appendix B.5 Global Marine Group – Mr John Wrottesley via Email

From: Wrottesley, John (Global Marine Group) [mailto:John.Wrottesley@globalmarine.group]
Sent: 23 May 2018 09:44
To: Axon, Simon
Subject: RE: Submission of Draft Bains Decommissioning Programmes

Hi Simon,

Apologies for the delay in responding, but please see comments below.

It is apparent that the majority of the route is in a relatively featureless area and the only cable (according to our database) that crosses or comes in close proximity to both of the decommissioning projects is the Bispham – IOM Interconnector cable crossing (around 17m water depth) which has been well documented in the decommissioning reports.

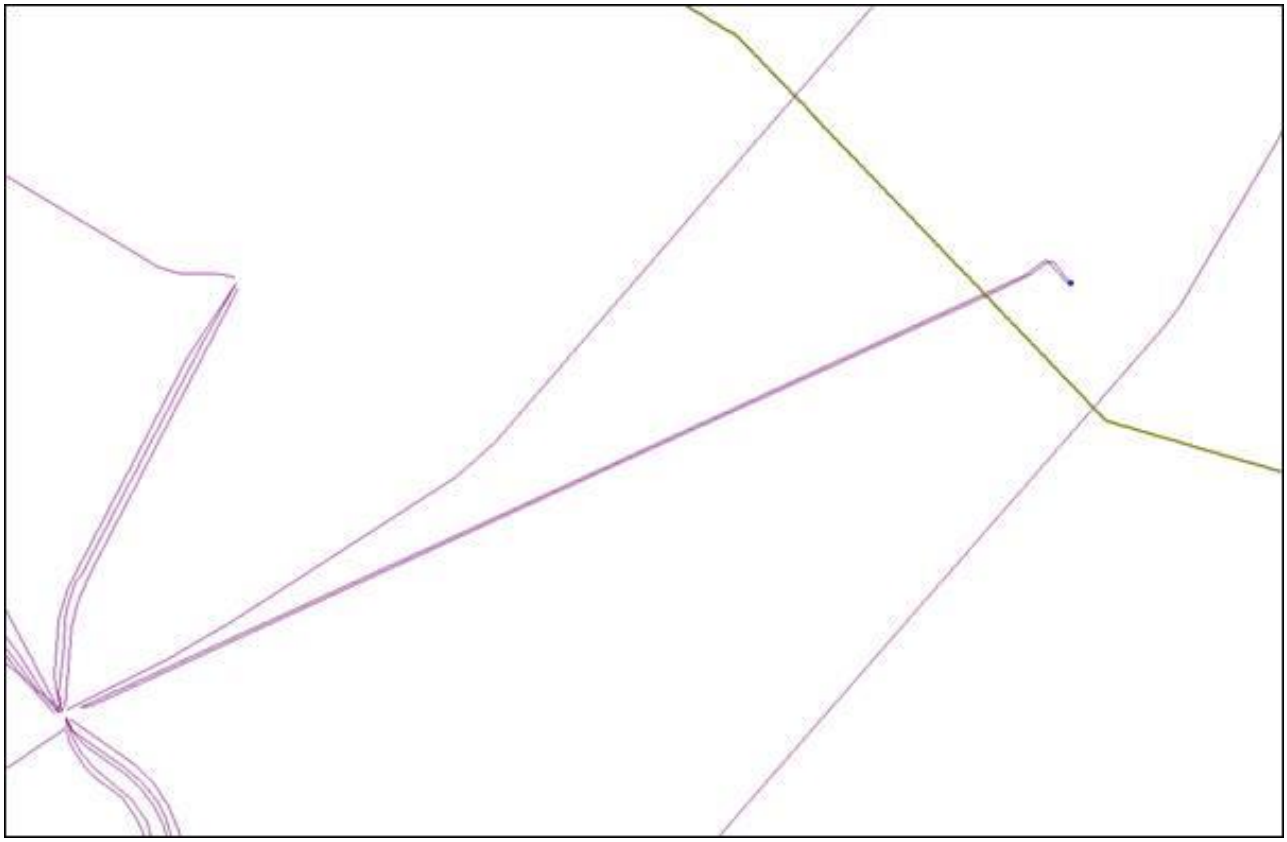
Well head removal

The well head (blue dot below) is situated approximately 521m away from the IOM Interconnector (brown line) so any operations around the well head should not have any effect.

Pipeline(s) in-situ decommissioning project

The Manx interconnector is currently operational and is classed as critical infrastructure therefore leaving the well buried pipe 'in-situ' and over the top of the interconnector is the best option to avoid any possibility of damage. If the pipeline had any free spans or minimal burial that could uplift above the sediment in time then the pipeline may need to be removed to reduce chances of exposing the cable and pipeline to the fishing industry however according to the survey and decommissioning pdf's, the cable is securely buried.

Leaving the fronded mattresses at the interconnector crossings in-situ is also a good option as they have "performed as designed."



Operational Considerations

During operations, I suggest that notification is issued through the Kingfisher Fortnightly Bulletin as well as to ESCA (European Subsea Cables Association) to ensure that there are not conflicts with any ongoing or planned cable installation or emergency repairs that could be taking place in the vicinity at the time when the decommissioning operations are in progress.

Kind regards,
John

From: Davidson, Ross
Sent: 23 March 2018 09:32
To: john.wrottesley@global.marine.group
Cc: Axon, Simon; Aberdeen DC
Subject: Submission of Draft Bains Decommissioning Programmes

Dear John,

Spirit Energy Production UK Ltd has submitted, for the consideration of the Secretary of State for Business, Energy & Industrial Strategy, draft Decommissioning Programmes for the Bains installations and associated pipelines in accordance with the provisions of the Petroleum Act 1998. It is a requirement of the Act that interested parties be consulted on such decommissioning proposals.

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Separately you will receive a document transmittal from our document control department, please can you return this to acknowledge receipt.

Please can you confirm that you've received all the information you require, and if you have any questions or concerns, please make any representations to the undersigned by Tuesday, 24 April, 2018.

Best regards,

Ross Davidson, Senior Public Relations Manager, SPIRIT ENERGY | IQ Building | 15 Justice Mill Lane | Aberdeen AB11 6EQ | UK