

BRAE AREA EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS Decommissioning Programmes



June 2024 – Revision 08

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DOCUMENT CONTROL

Approvals

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Distribution List

Entity
Spirit Energy Resources Limited
Neo Energy Petroleum Limited
TAQA Bratani LNS Limited
OPRED
North Sea Transition Authority (NSTA)

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6.4	Long Term Facilities Management	✓	✓
6.5	Costs	✓	✓
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6.7	Post-Decommissioning Monitoring and Evaluations	✓	✓
6.8	Management of Residual Liability	✓	✓
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LIST OF ABBREVIATIONS

Abbreviation	Explanation
BEIS	The Department of Business, Energy, and Industrial Strategy (now the Department for Energy Security and Net Zero (OPRED))
BTA	Buoyancy Tank Assembly
CNR	Canadian Natural Resources
CNS	Central North Sea
CoP	Cessation of Production
DP	Decommissioning Programme
EIA	Environmental Impact Assessment
EMT	(OPRED) Environmental Management Team
ES	Environmental Statement
GHG	Greenhouse Gas
HLV	Heavy Lift Vessel
LAT	Lowest Astronomical Tide
LLC	Limited Liability Corporation
MARPOL	International Convention for the Prevention of Pollution from Ships
NMP	(Scottish) National Marine Plan
NORM	Naturally Occurring Radioactive Material
NSTA	North Sea Transition Authority
OPEX	Operational Expense
OPRED	Offshore Petroleum Regulator for Environment and Decommissioning
OSPAR	Oslo Paris Convention
PiP	Pipe in Pipe
PL	Pipeline (as in pipeline number)
PLU	Umbilical (as in umbilical number)
PMS	Power Management System
ROV	Remotely Operated Vehicle
SAC	Special Area of Conservation
SAGE	Scottish Area Gas Evacuation (Export pipeline)
SEPA	Scottish Environment Protection Agency
SFF	Scottish Fishermen's Federation
SLV	Single Lift Vessel
SSIV	Subsea Isolation Valve
TAQA	TAQA Bratani Limited
UK	United Kingdom
UKCS	United Kingdom Continental Shelf
WBS	Work Breakdown Structure

1 Executive Summary

1.1 Decommissioning Programmes

As required by the Petroleum Act 1998, amended by the Energy Act 2008, this document contains three decommissioning programmes, one for the East Brae Upper Jacket and two for the associated pipeline, umbilical, and power cable riser sections (see section 1.4.2). The East Brae Footings and associated riser sections will be covered in separate decommissioning programmes.

1.2 Requirement for Decommissioning Programmes

In accordance with the Petroleum Act 1998, as amended, TAQA Bratani Limited (TAQA), as Operator of the East Brae platform (see Table 1.1), and on behalf of the Section 29 Notice Holders (see Table 1.2, Table 1.3, and Table 1.4), is applying to the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED) to obtain approval for decommissioning the East Brae Upper Jacket and the associated riser sections, as detailed in Section 2 of this document. (See Section 8 – Section 29 Holders’ Letters of Support).

1.3 Introduction

The East Brae platform lies in UKCS Block 16/3a, approximately 280 km northeast of Aberdeen in a water depth of 116m. The platform sub-structure¹ is a four legged 136 m tall, fabricated steel structure with a total weight of 10,577 tonnes. The Upper Jacket covered by these decommissioning programmes weighs 8,340 tonnes including the weight of marine growth.

Marathon Oil originally installed and operated the East Brae platform. The operatorship subsequently transferred to RockRose Energy and then to the current Operator, TAQA. These different entities have performed various activities associated with East Brae decommissioning. For clarity, the current document refers to the “The East Brae Operator” for past activities performed by Marathon Oil or RockRose Energy. Going forward, TAQA will decommission the infrastructure as Operator, and on behalf of the other companies that have previously been involved in East Brae operations and have decommissioning responsibilities under Section 29 of the Petroleum Act. Therefore, these decommissioning programmes refer to “TAQA” in relation to future decommissioning activities by the East Brae Operator.

East Brae started production in 1993. The East Brae Operator extended the life of the fields produced by the platform beyond initial projections. There are no viable hydrocarbon opportunities that could potentially prolong the life of the installation further. Therefore, the East Brae Operator made a CoP (Cessation of Production) application to the Oil and Gas Authority (OGA) (now the North Sea Transition Authority (NSTA)), which was accepted in 2017. East Brae CoP is anticipated to be 2025 notwithstanding market conditions and well or process equipment problems.

These decommissioning programmes are submitted without derogation and in full compliance with OPRED guidelines. The decommissioning programmes explain the principles of the removal activities in accordance with relevant guidance [1]. The decommissioning programmes are supported by an environmental statement [2] completed in 2017 and an Environmental Statement Gap Analysis completed in 2023 [3].

¹ For the purposes of this Decommissioning Programme, the term sub-structure describes the entire jacket, i.e. the Upper Jacket and Footings combined.

The East Brae Operator conducted public, stakeholder, and regulatory consultation on a previous decommissioning programme which included the East Brae Upper Jacket in 2017. Since then, the proposals for decommissioning the Upper Jacket have not altered. However, the scope of the previous decommissioning programme has been split into three separate programmes. Since the presentation of information regarding decommissioning the East Brae Upper Jacket has changed, TAQA is issuing the Decommissioning Programmes contained in this document for further stakeholder consultation.

A significant period has elapsed since the preparation of the East Brae Decommissioning Environmental Statement [2] in 2017 by the East Brae Operator. Therefore, in consultation with OPRED, TAQA conducted an Environmental Statement Gap Analysis in 2023 [3]. The objectives of the Environmental Statement Gap Analysis were,

- To identify potential gaps in the 2017 Environmental Statement (ES) by reviewing the differences in available data, topics of interest, and methodology between 2017 and 2023.
- To determine if any identified gaps in the 2017 ES are significant and invalidate the ES conclusions.
- To determine whether further work is required to revalidate or extend the 2017 ES conclusions.

The Environmental Statement Gap Analysis [3] determined that there are no gaps in the ES that require further work to revalidate the ES conclusions.

The points of note from the Gap Analysis [3] are;

- **Environmental Survey Date:** The Gap Analysis determined that there are no significant differences in the environmental survey data that support the 2017 ES and the latest survey data from the East Brae area.
- **Conservation:** Since the issue of the ES in 2017, the boundary of the Braemar Pockmarks Special Area of Conservation (SAC) has been extended. However, as the SAC is 9 km from the East Brae platform, and the removal of the upper jacket will have very little impact on the seabed, this change is not significant.
- **Seabirds:** The issue of disturbance of seabirds on offshore structures has received more focus since 2017. This issue is not directly addressed in the 2017 ES. However, since 2017 TAQA has implemented a Seabird Management Strategy that addresses the concerns around seabird disturbance.
- **Other Sea Users:** Although there have been changes in the pattern of fishing in the East Brae Area these are not significant in the context of Upper Jacket removal.
- **National Marine Plan (NMP):** The NMP was not considered in the 2017 ES. However, the policies and procedures that TAQA has in place address the requirements of the NMP.
- **Atmospheric Emissions:** The ES addressed the full East Brae Platform and Braemar decommissioning scope. It did not state the Greenhouse Gas (GHG) emissions associated with removal of the Upper Jacket in isolation. The Gap Analysis calculated these emissions, which are reported in [Table 4.2](#). The emissions are not significant in terms of the overall GHG emissions from the UK offshore oil and gas sector.
- **Net Zero:** The Gap Analysis found that TAQA has strategies in place to reduce GHG emissions in line with societal expectations.

1.3.1 Scope of Decommissioning Programmes

The scope of these Decommissioning Programmes is the removal of the East Brae Upper Jacket and the associated riser sections from the topsides removal cut elevation at approximately 19 m above Lowest Astronomical Tide (LAT) to circa 97 m below LAT. The Upper Jacket is coloured red in Figure 1.1. The lower part of the sub-structure, which is coloured black in Figure 1.1, is referred to as “Footings” throughout this document. The Footings are outside the scope of the decommissioning programmes in this document and will be addressed in separate decommissioning programmes in due course.

The pipeline, umbilical and power cable riser sections that will be removed with the Upper Jacket are listed in Section 1.4.2 and described in Section 2.2. These lines will be flushed and purged as far as practicable prior to Topsides removal. The Open Drains Caisson will also be removed with the Upper Jacket. The small quantity of oil contained in this Caisson will be minimised as far as practicable before Topsides removal. TAQA will apply for an oil discharge permit prior to Upper Jacket removal although no oil discharge is expected.

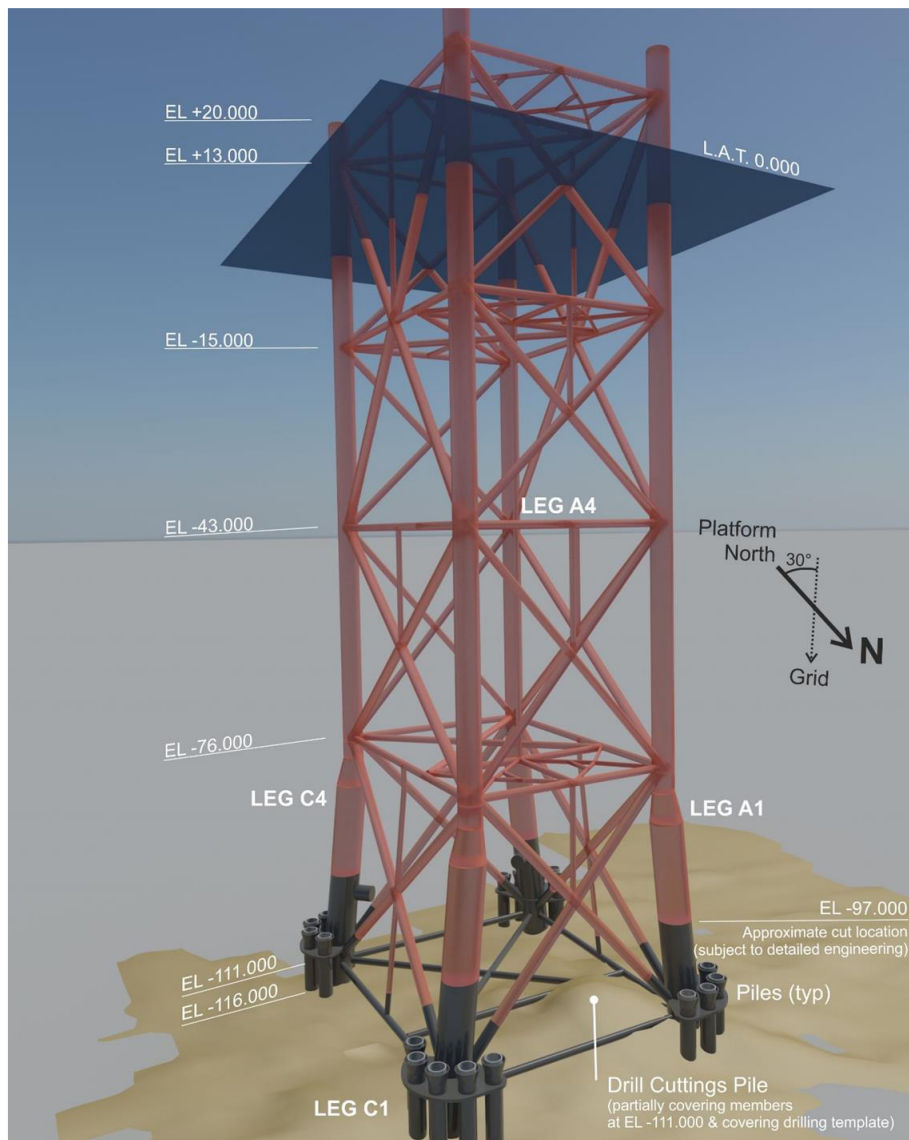


Figure 1.1: Facilities to be Decommissioned (Shown in Red)

The pipeline and umbilical riser sections that are attached to the Upper Jacket will be removed with the Upper Jacket. Any remaining parts of these pipelines and umbilicals will be covered in wider Brae Area decommissioning programmes.

The East Brae Topsides and Braemar subsea installation are covered in further Decommissioning Programmes which were approved in September 2020 [4]. Similarly, the Devenick subsea installation is covered in separate decommissioning Programmes [5].

1.4 Overview of Facilities Being Decommissioned

The East Brae Upper Jacket covered by these Decommissioning Programmes is shown as the structure shaded red in Figure 1.1. The key Upper Jacket data are presented in Table 1.1. The relevant Section 29 notice holders are listed in Table 1.2.

Section 1.4.2 lists the pipeline, umbilical and power cable riser sections, which are attached to the Upper Jacket and will be removed with it. The riser sections will be cut at the Upper Jacket cut elevations at approximately 19 m above LAT and 97 m below LAT. The risers will be cut at depths that avoid disturbance of the drill cuttings pile at the base of the sub-structure. The Section 29 notice holders for the pipeline, umbilical, and power cable risers are listed in Table 1.3, and Table 1.4.

East Brae is one of the installations in the Brae Area. The other installations are Brae Alpha, Brae Bravo, Central Brae, West Brae, Sedgwick, Braemar and Devenick. East Brae and the other Brae facilities are shown in Figure 1.2 and Figure 1.3.

1.4.1 Installations

Table 1.1: Installations Being Decommissioned

Field(s)	East Brae	Production Type (Oil/Gas/Condensate)	Gas/Condensate
Water Depth	116 m	UKCS Block	16/3a & 16/3b
Distance to Median	4 km	Distance from Nearest UK Coastline	193 km
Surface Installations			
Number	Type	Topside Weight (tonnes)	Jacket Weight (tonnes)
1	Steel Jacket	N/A	≈ 8,340 ¹

¹ Estimated Upper Jacket Recoverable weight including marine growth covered by these Decommissioning Programmes.

Table 1.2: East Brae Section 29 Notice Holders

Company	Registration Number	Equity Interest
TAQA Bratani Limited	05975475	73.29507%
Spirit Energy Resources Limited	02855151	11.58596%
Neo Energy Petroleum Limited	03288689	9.14641%
TAQA Bratani LNS Limited	06230540	5.97256%
BP Exploration Operating Company Limited	00305943	0.0 %
Fujairah Oil and Gas UK LLC	FC009587	0.0%
ENI UKCS Limited	1019748	0.0%
GB Gas Holdings Limited	03186121	0.0%
Neptune E&P UKCS Limited	3386464	0.0%
Repsol Resources UK Limited	825828	0.0%
Repsol LNS Limited	2483161	0.0%

1.4.2 Pipeline Umbilical & Power Cable Risers

Pipeline, umbilical and power cable risers are attached to the East Brae sub-structure. Sections of the risers will be decommissioned with the East Brae Upper Jacket.

The pipelines and umbilicals, including the risers, will be isolated, de-energised, flushed as far as practicable, and disconnected as part of East Brae Topsides decommissioning scope.

As part of the East Brae Upper Jacket decommissioning scope, the associated riser sections will be severed in alignment with the proposed Upper Jacket cut elevations at approximately 19 m above LAT and 97 m below LAT. The risers will be cut at a point that avoids disturbing the drill cuttings pile at the base of the sub-structure. The Pipeline Works Authorisations will be amended as necessary to reflect the risers' as left status.

The pipeline, umbilical and power cable riser sections attached to the East Brae Upper Jacket are;

- Pipeline and umbilical riser sections serving the Braemar subsea installation.
 - PL1969 – Braemar production flowline
 - PLU1970 – Braemar chemical / control umbilical
 - PLU1977 – Braemar SSIV umbilical

The approved East Brae Topsides and Braemar Decommissioning Programmes [4] list the Section 29 Notice holders for these lines.

- Pipeline and umbilical riser sections serving the Devenick subsea installation.
 - PL2746 – Devenick production pipeline
 - PL2747 – Devenick methanol pipeline
 - PLU2752 – Devenick control and chemical umbilical
 - PLU2754 – Devenick SSIV umbilical

The Devenick Decommissioning Programmes [5] list the Section 29 Notice holders for these lines. The Devenick DPs are currently under consideration by OPRED.

- Trunk pipeline, umbilical and power cable riser sections serving the Brae Area platforms.
 - PL894 – Condensate export from East Brae to Brae Bravo subsea Wye
 - PL895 – Gas transfer from East Brae to Brae Alpha
 - PL896 – Gas export from East Brae to the Scottish Area Gas Evacuation (SAGE) system
 - PLU4216 – East Brae Crossover / SSIV control umbilical
 - PL6120 – Power Management System (PMS) cable from Brae Alpha to East Brae
 - PL6121 – PMS cable from Brae Bravo to East Brae

The Section 29 Notice holders for the pipeline riser sections serving the Brae Area platforms are listed in [Table 1.3](#). The Section 29 Notice holders for the umbilical and PMS cable riser sections serving the Brae Area platforms are listed in [Table 1.4](#). The decommissioning proposals for the parts of these pipelines, umbilical and power cables other than the riser sections will be described in the Brae Area Trunk Pipelines Decommissioning Programmes [6] to be published in due course.

Table 1.3: Pipelines PL894, PL895, & PL896 Section 29 Notice Holders

Company	Registration Number	Equity Interest
TAQA Bratani Limited -	05975475	69.5%
Spirit Energy Resources Limited	02855151	13.33%
Neo Energy Petroleum Limited	3288689	10.50%
TAQA Bratani LNS Limited	06230540	6.67%
BP Exploration Operating Company Limited	00305943	0%
ENI UKCS Limited	01019748	0%
Fujairah Oil and Gas UK LLC	FC009587	0%
GB Gas Holdings Limited	03186121	0%
Neptune E&P UKCS Limited	03386464	0%
Repsol LNS Limited	02483161	0%
Repsol Resources UK Limited	00825828	0%

Table 1.4: Pipelines PL6120, PL6121, & PLU4216 Section 29 Notice Holders

Company	Registration Number	Equity Interest
TAQA Bratani Limited -	05975475	69.5%
Spirit Energy Resources Limited	02855151	13.33%
Neo Energy Petroleum Limited	3288689	10.5%
TAQA Bratani LNS Limited	06230540	6.67%
Fujairah Oil and Gas UK LLC	FC009587	0.00%
GB Gas Holdings Limited	03186121	0.00%

1.5 Summary of Proposed Decommissioning Programmes

The selected decommissioning option for the East Brae Upper Jacket is shown in [Table 1.5](#) below.

Table 1.5: Summary of Decommissioning Programmes		
Selected Option	Reason for Selection	Proposed Decommissioning Solution
East Brae Jacket		
Remove the East Brae Upper Jacket to a depth approximately 97 m below LAT.	Removal complies with OSPAR Decision 98/3 and Regulatory requirements.	The East Brae Upper Jacket will be removed to a point around 97 m below lowest astronomical tide (approximately 19 m above seabed). Recovered material will be returned to shore for recycling or disposal.
Pipeline, Umbilical and Power Cable Riser Sections		
Remove the riser sections attached to the Upper Jacket between approximately 19 m above LAT and 97 m below LAT.	Removal complies with OSPAR Decision 98/3 and Regulatory requirements.	The riser sections will be removed between approximately 19 m above LAT and 97 m below lowest astronomical tide. Recovered material will be returned to shore for recycling or disposal. See Section 1.4.2 for a listing of the pipeline umbilical and power cable riser sections.
Interdependencies		
The selected Upper Jacket decommissioning option of removal between elevations of 19 m above LAT and 97 m below LAT does not prejudice decommissioning options for the Footings and their associated riser sections.		
TAQA will liaise with the Section 29 notice holders for the Upper Jacket and the associated pipeline, umbilical and cable riser sections to ensure that the Section 29 notice holders are fully aware of the selected decommissioning options.		

1.6 Field Locations Including Field Layouts and Adjacent Facilities

The locations of the Brae Area fields within the UKCS are shown in Figure 1.2. More details of the Brae Area facilities layout are shown in Figure 1.3. The facilities adjacent to the East Brae installation are shown in Figure 1.4 and listed in Table 1.6.

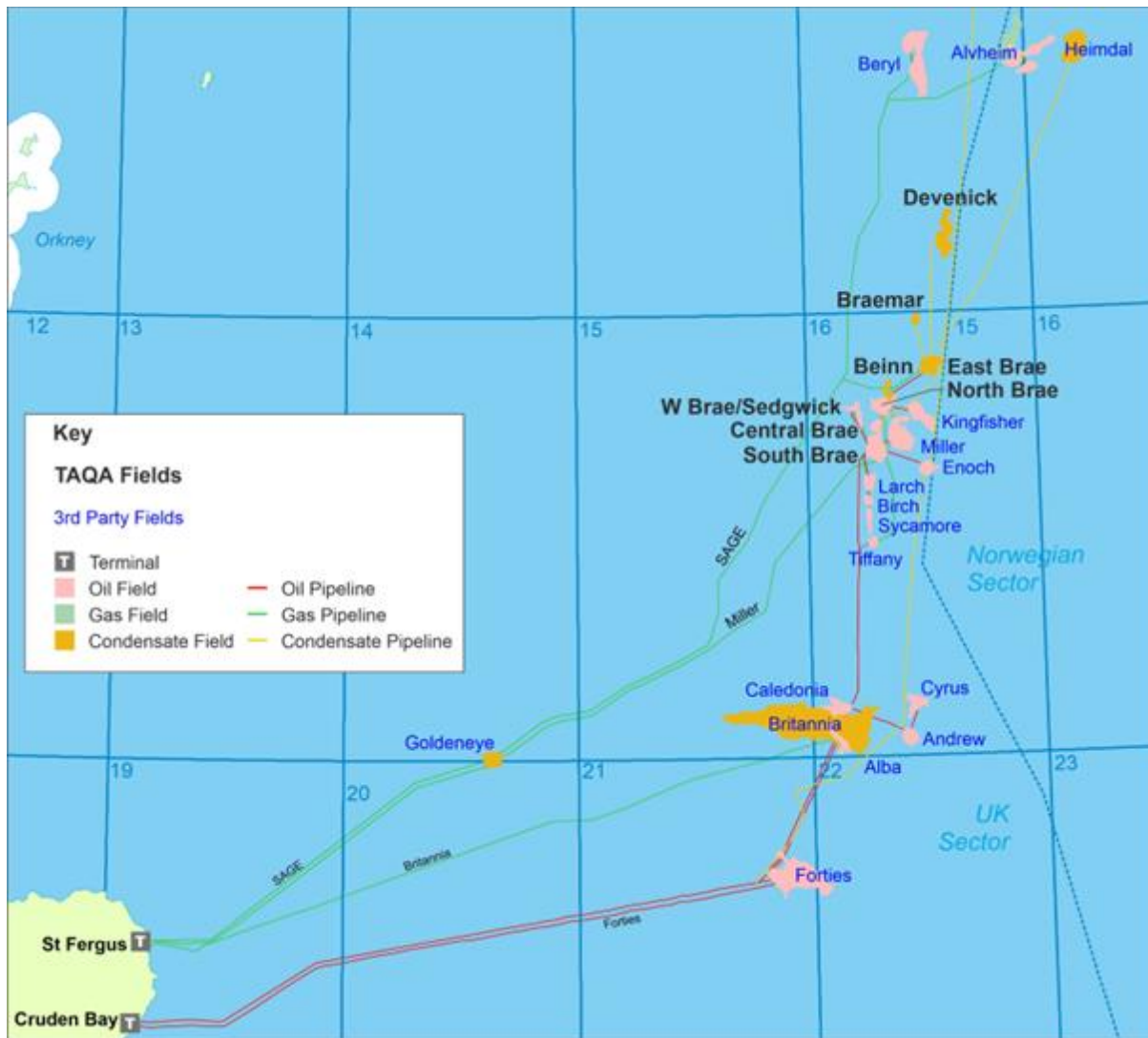


Figure 1.2: Brae Area Field Locations within UKCS

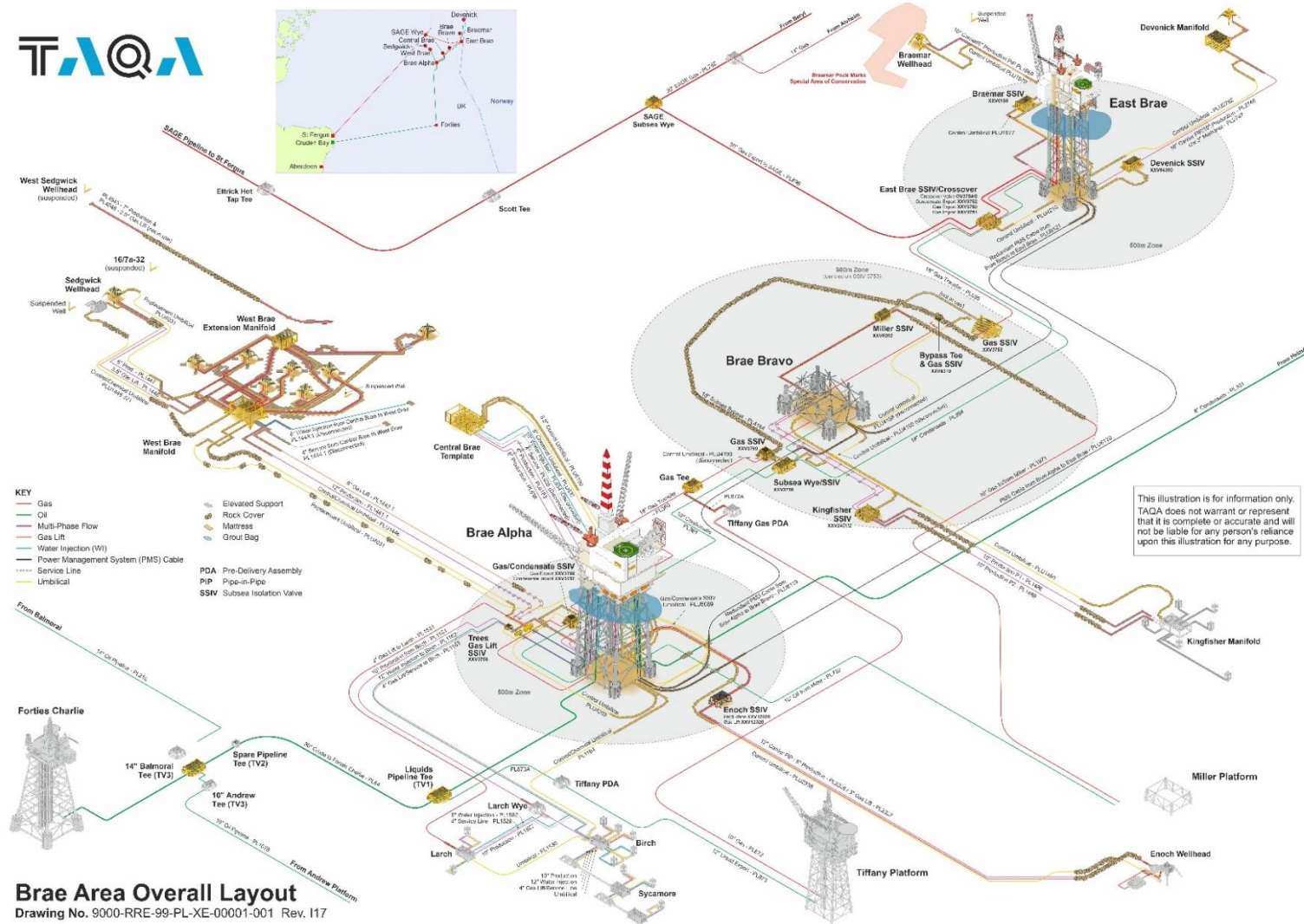


Figure 1.3: Brae Area Facilities Layout

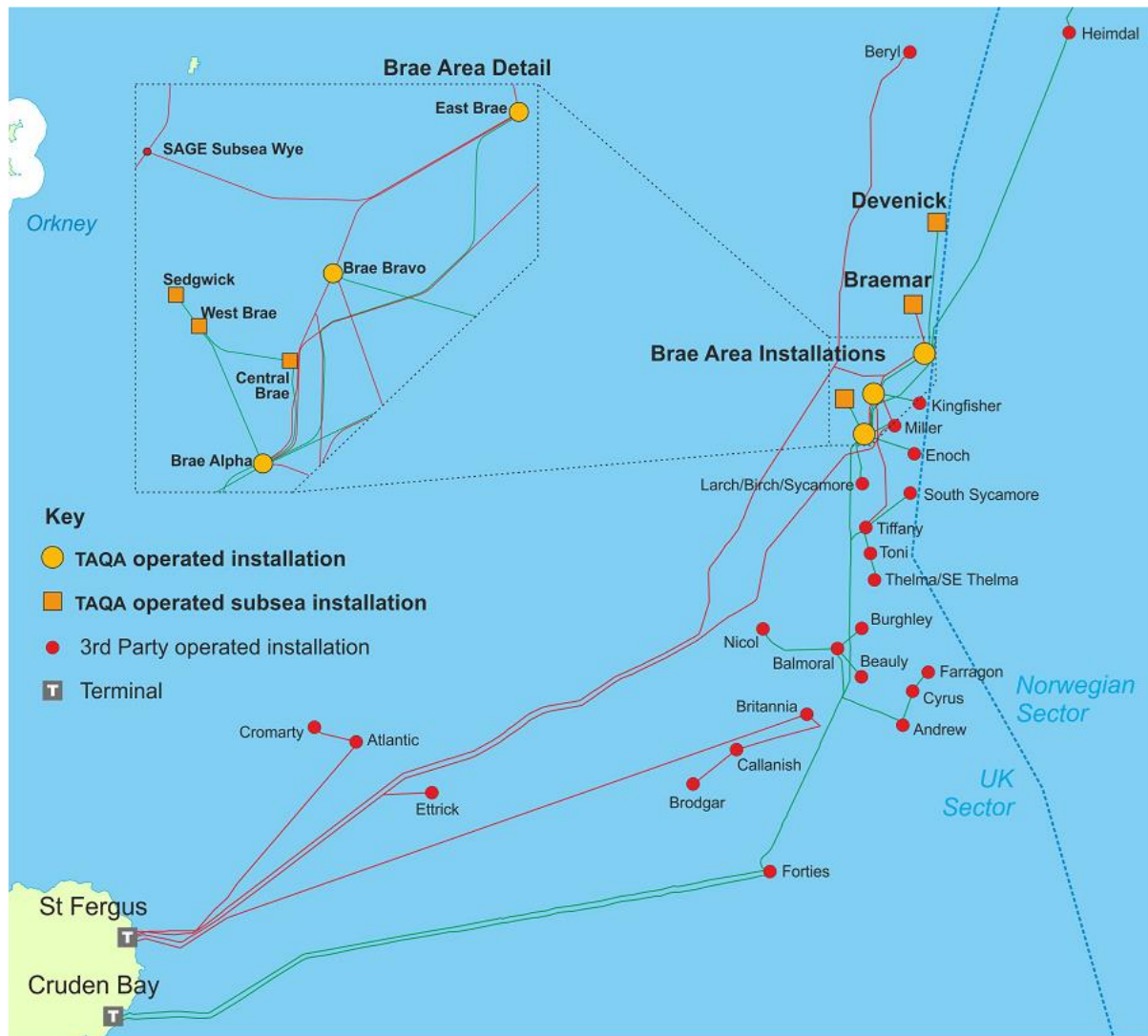


Figure 1.4: Brae Area Adjacent Facilities

Table 1.6: Adjacent Facilities

Owner	Name	Type	Distance / Direction from East Brae	Information	Status
TAQA	Brae Alpha	Platform	23 km south west	Connected to East Brae via power cable	Operational
TAQA	Brae Bravo	Platform	14 km south west	Connected to East Brae via power cables	Decommissioned

Table 1.6: Adjacent Facilities

Owner	Name	Type	Distance / Direction from East Brae	Information	Status
TAQA	East Brae SSIV / Crossover Structure & Control Umbilical	Subsea Isolation Valve and Crossover, Protection Structure and Control Umbilical	<500 m	Protects East Brae installation from hazards associated with PL894 and PL895	Operational
TAQA	PL894	Pipeline	<500 m	18" Condensate Pipeline from East Brae to Brae Bravo Subsea Wye / SSIV	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning
TAQA	PL895	Pipeline	<500 m	18" Gas Pipeline from East Brae to Brae Alpha	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning
TAQA	PL896	Pipeline	<500 m	30" Gas Pipeline from East Brae SSIV / Crossover Structure to SAGE Wye	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning
BP Exploration (Alpha) Limited	Miller	Platform	19 km south west	Ex production platform	Decommissioned
BP Exploration Operating Company Limited	PL1971 Miller to Brae Bravo	16" Gas Pipeline	14 km south west	Redundant pipeline	Suspended
BP Exploration (Alpha) Limited	PL722 Miller to Brae Alpha	18" Oil Pipeline	23 km south west	Redundant pipeline	Suspended
Repsol North Sea Limited	Enoch Wellhead	Subsea well	25 km south	Subsea tie-back to Brae Alpha	Operational
Repsol North Sea Limited	PL2336 Enoch to Brae Alpha Flowline	8" Flowline in 12" carrier pipe	23 km south west	Pipeline	Operational

Table 1.6: Adjacent Facilities

Owner	Name	Type	Distance / Direction from East Brae	Information	Status
Repsol North Sea Limited	PL2337 Brae Alpha to Enoch Gas Lift Line	3" Flowline in 12" carrier pipe	23 km south west	Pipeline	Operational
Repsol North Sea Limited	PLU2338 Brae Alpha to Enoch Control Umbilical	Electro/Hydraulic Control Umbilical	23 km south west	Pipeline	Operational
CNR International (U.K.) Limited	Tiffany	Platform	47 km south south west	Production Platform	Operational
CNR International (U.K.) Limited	PL872 Tiffany to PL360 Gas Export Line	10" Gas Pipeline	23 km south west	Pipeline	Operational
CNR International (U.K.) Limited	PL873 Tiffany to PL064 Oil Export Line	12" Oil Pipeline	30 km south west	Pipeline	Operational
Spirit Energy North Sea Oil Limited	Birch, Larch, Sycamore	Subsea manifolds and wellheads	35 km south west	Subsea Production Installation	Operational
Spirit Energy North Sea Oil Limited	PL1161 Birch to Brae Alpha	10" Production Pipeline	23 km south west	Pipeline	Operational
Spirit Energy North Sea Oil Limited	PL1162 Brae Alpha to Birch	12" Water Injection Line	23 km south west	Pipeline	Operational
Spirit Energy North Sea Oil Limited	PL1531 Brae Alpha to Larch	4" Gas Lift Line	23 km south west	Pipeline	Operational
Spirit Energy North Sea Oil Limited	PL1163 Brae Alpha to Birch	4" Gas Lift Line	23 km south west	Pipeline	Operational
SAGE North Sea Limited	PL762 SAGE Pipeline	30" Gas Export Line	0 km	Connects to East Brae via the SAGE Subsea Wye structure	Operational
Shell UK Limited	Kingfisher	Subsea manifold and wells	12 km south south west	Ex Subsea Production Installation	Out of Use

Table 1.6: Adjacent Facilities

Owner	Name	Type	Distance / Direction from East Brae	Information	Status
TAQA Bratani Limited	Devenick	Subsea template	13 km north east	Subsea Production Installation	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning
TAQA Bratani Limited	Devenick SSIV Structure	Subsea Isolation valve	<500 m	Protects East Brae installation from hazards associated with PL2746	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning
TAQA Bratani Limited	Devenick SSIV umbilical	Umbilical controlling Devenick SSIV	0 km	Runs from East Brae platform to Devenick SSIV structure	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning
TAQA Bratani Limited	PL2746 Devenick production flowline	16"/10" PiP production pipeline.	0km	Production pipeline from Devenick to East Brae	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning
TAQA Bratani Limited	PL2747 Devenick Methanol line	3" Pipeline	0 km	Methanol pipeline from East Brae to Devenick	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning
TAQA Bratani Limited	PLU2752 Devenick control / chemical umbilical	Chemical / Control umbilical	0 km	Control umbilical from East Brae to Devenick	Operational at time of DP submission. Will be suspended as part of the wider Brae Area decommissioning
Century Link	AC1	Telecoms. Cable	≈ 15 km north	Transatlantic cable.	Operational
Aqua Comms	Havfrue / AEC-2	Telecoms. Cable	≈ 28 km north	Transatlantic cable	Operational
Deutsche Telekom AG	TAT10	Telecoms. Cable	≈ 11 km north	Transatlantic cable	Disused

Table 1.6: Adjacent Facilities

Owner	Name	Type	Distance / Direction from East Brae	Information	Status
Telia Carrier	TAT14	Telecoms. Cable	≈ 21 km north	Transatlantic cable	Disused

Impacts of Decommissioning Proposals

TAQA has been, and will continue to be, in contact with Operators and owners of adjacent facilities. The adjacent facilities have no known impacts on the East Brae Upper Jacket and Associated Riser Sections decommissioning programmes. Similarly, these decommissioning programmes have no known impacts on the operation of adjacent facilities.

TAQA will liaise with the S29 notice holders for the East Brae Upper Jacket and associated pipeline and umbilical riser sections regarding the planning and execution of decommissioning, dismantling and disposal of the installation and associated riser sections.

1.7 Industrial Implications

TAQA is developing the East Brae Upper Jacket decommissioning contract and procurement strategy, on behalf of the Section 29 Notice Holders. TAQA has, and will continue to:

- Publish East Brae Upper Jacket decommissioning project information, on the TAQA decommissioning website:
<https://uk.taqa.com/decommissioning-consultations-and-projects/>
- Publish project information and contact details on the NSTA (North Sea Transition Authority) Pathfinder website.
- Engage with the NSTA and the decommissioning supply chain on any future issues relating to the East Brae Upper Jacket and Associated Riser Sections decommissioning programmes and schedule.
- Use the FPAL (First Point Assessment Limited) database as the primary source for establishing tender lists for any future contracts and purchases with a value of £250,000 or more.

2 Description of Items to be Decommissioned

2.1 Installations: Surface Facilities – Jacket

Key information regarding the East Brae Upper Jacket is presented in [Table 2.1](#).

Table 2.1: Surface Facilities Information

Name	Type	Location	Jacket				
			Weight (tonnes)	Number of Legs	Number of Piles	Weight of Piles (tonnes)	
East Brae Platform	Steel Jacket (Cut at 97 m below LAT, see Figure 1.1)	WGS84 Decimal	58.880650°N 1.518067°E	≈ 8,340 ¹	4	N/A	N/A
		WGS84 Decimal Minute	58° 52.839'N 1° 31.084'E				

1. Recoverable Upper Jacket weight covered by these Decommissioning Programmes, including marine growth (See [Table 2.2](#)).

2.2 Pipeline Umbilical and Power Cable Riser Sections

The East Brae Upper Jacket supports pipeline, umbilical and power cable riser sections. Portions of the risers and pipelines outwith the Upper Jacket, i.e. attached to the Footings or on the seabed, are beyond the scope of these decommissioning programmes.

Section [1.4.2](#) lists the pipeline, umbilical, and power cable riser sections which are attached to the Upper Jacket and will be removed with it. The risers will be cut at the Upper Jacket cut elevations at 19 m above LAT and 97 m below LAT. The risers will be cut at a depth that avoids disturbance of the drill cuttings pile at the base of the sub-structure.

2.3 Wells

There are no wells in the scope of these decommissioning programmes. For information on the East Brae wells refer to East Brae Topsides and Braemar Combined Decommissioning Programmes [\[4\]](#).

2.4 Drill Cuttings

There are no drill cuttings in the scope of these decommissioning programmes. Information regarding the drill cuttings will be included in the scope of Footings and Associated Riser Sections Decommissioning Programmes.

2.5 Inventory Estimates

The approximate amounts of materials that make-up the East Brae Upper Jacket have been evaluated. A focused review of the inventories of materials will be conducted during the detailed engineering phase of decommissioning. The quantities of waste materials will be tracked through the dismantling, reuse, recycling, and disposal phases of the project.

A summary of the material inventories for East Brae Upper Jacket is presented in [Table 2.2](#) and [Figure 2.1](#).

Table 2.2: East Brae Upper Jacket Material Inventory

Material	Weight (tonnes)	% of Total
Carbon Steel	7,479	≈ 89.5%
Marine Growth	834	≈ 10%
Non-Ferrous	28 ¹	≈ 0.5%
Other	2 ²	<0.1%
Total	≈ 8,340	100%

Table 2.2 Notes:

- 1 The sacrificial anodes on the Upper Jacket make up the Non-Ferrous inventory.
- 2 The other material associated with the Upper Jacket mainly consists of paint in the splash zone.

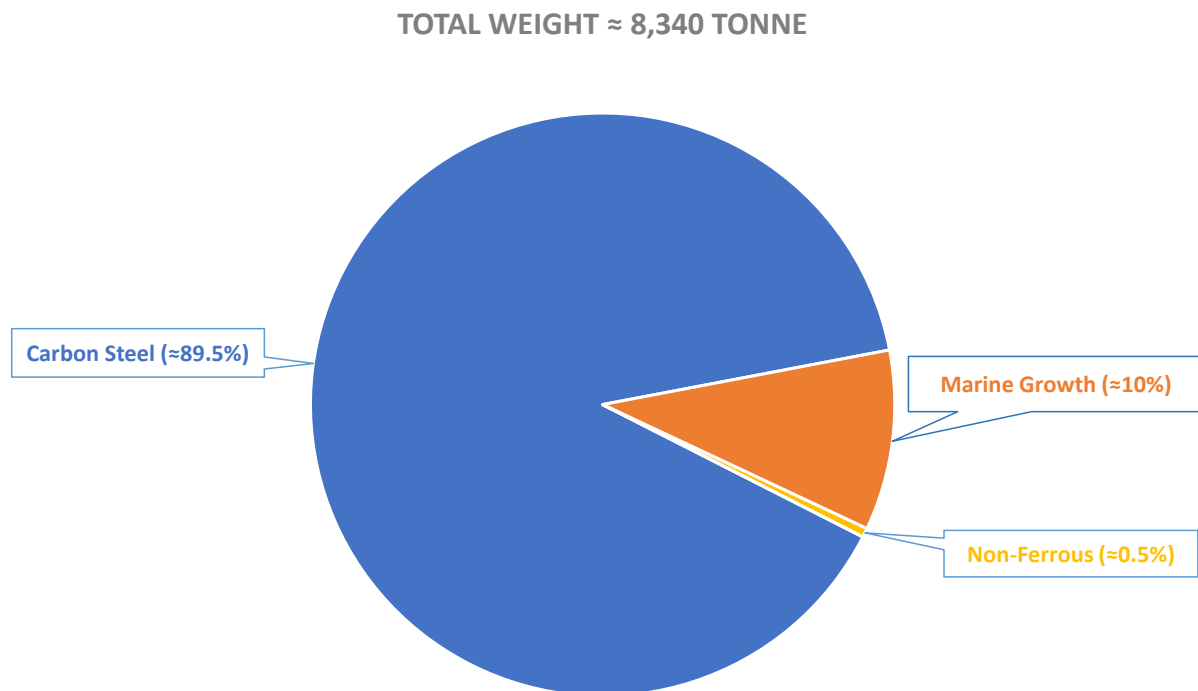


Figure 2.1: Material Inventory

3 Removal and Disposal Methods

The reuse of an installation or its constituent parts is the preferred decommissioning option. The East Brae Operator carried out a qualitative internal review of options for reusing the Brae Area platforms and sub-structures, including the East Brae Upper Jacket, and concluded there are no technically viable reuse options.

The majority of the East Brae Upper Jacket is steel, which will be recovered and recycled. The small proportion of materials remaining after reuse and recycling will be disposed of appropriately in accordance with TAQA policies and the relevant regulatory requirements.

3.1 Upper Jacket Decommissioning Overview

The East Brae Upper Jacket will be removed to a depth of approximately 97 m below LAT which is circa 19 m above the seabed. The portion of the structure shaded red in [Figure 1.1](#) constitutes the Upper Jacket. The footings and associated riser sections will be the subject of separate decommissioning programmes.

The exact cut depth will be determined following detailed engineering, considering technical constraints. TAQA will notify OPRED once the exact cut depth has been determined.

The cut depth constraints are;

- The jacket design. This impacts where it is possible to cut the jacket and retain the required structural integrity in the resulting sections of the jacket. The design also dictates whether there is access for tooling to make cuts.
- Cutting technology. The size of cutting tools and the size of ROVs and deployment aids dictate where it is possible to make cuts.
- Safety: The selected cut locations must be safe for both planned operations and contingencies such as recovery of failed tools, etc., which may involve deployment of divers in extreme circumstances.
- Environmental factors. Upper Jacket cutting operations should avoid locations that will disturb the seabed and the drill cuttings pile or cause other unreasonable environmental disturbance.

The Upper Jacket will be transported to shore on the deck of the HLV, hanging on the HLV crane hooks, or on a barge, or barges.

The East Brae Operator conducted technical studies on removal techniques for the East Brae sub-structure in accordance with OSPAR 98/3 [\[7\]\[8\]](#). For clarity, “sub-structure” relates to the complete jacket, that is, Upper Jacket and Footings combined. These technical studies considered various methods for removal of the sub-structure. These included removing the sub-structure as a single entity, and also removing the Upper Jacket and Footings as separate sections. Removing the sub-structure as a single entity presents a number of technical constraints and challenges;

1. The sub-structure is so tall that there are no crane vessels available capable of lifting it vertically clear of the water and onto a barge.
2. Turning the sub-structure from its installed vertical orientation to a horizontal orientation is problematic in terms of installing lift points, attaching suitable rigging, managing buoyancy, and carrying out the lift.

3. Transporting the partially submerged sub-structure in one piece hanging on a crane vessel's hooks imposes additional drag on the vessel and potentially compromises the integrity of the sub-structure. In addition, it would not be possible to transfer it directly to the quayside for dismantling, because of the crane hook height limit. The sub-structure would have to be set down in shallow water and broken down into sections.

Therefore, the East Brae Operator concluded that in all conceptual scenarios for removal of the sub-structure, the separation of the Upper Jacket from the Footings would be a pre-requisite for any Footings removal methodology.

The Footings that will remain after the removal of the Upper Jacket are shown in [Figure 3.1](#). The Footings and associated riser sections will be the subject of separate decommissioning programmes. The footings and associated riser sections may be left in situ if derogation is granted under OSPAR Decision 98/3.

The removal of the Upper Jacket will be conducted such that it does not preclude the full removal of the Footings. Should removal of the Footings be required:

1. The structural arrangement of the Footings maintains significant inherent global structural strength to enable numerous removal options using a range of decommissioning vessels and methodologies.
2. Due to the structural geometry and weight distribution, the Footings would be removed in multiple sections. This was evaluated as part of the full removal scope within the comparative assessment process.
3. Both the global strength of the structural sections and local strength at the lift point locations would be appropriately engineered during detailed design to ensure sufficient strength is maintained during Footings removal operations.

Note that the potential Footings removal methodology does not consider the technical challenges associated with the excavation and cutting of the structural piles, breaking the footings and pile stubs free from the seabed and displacement of the drill cuttings.

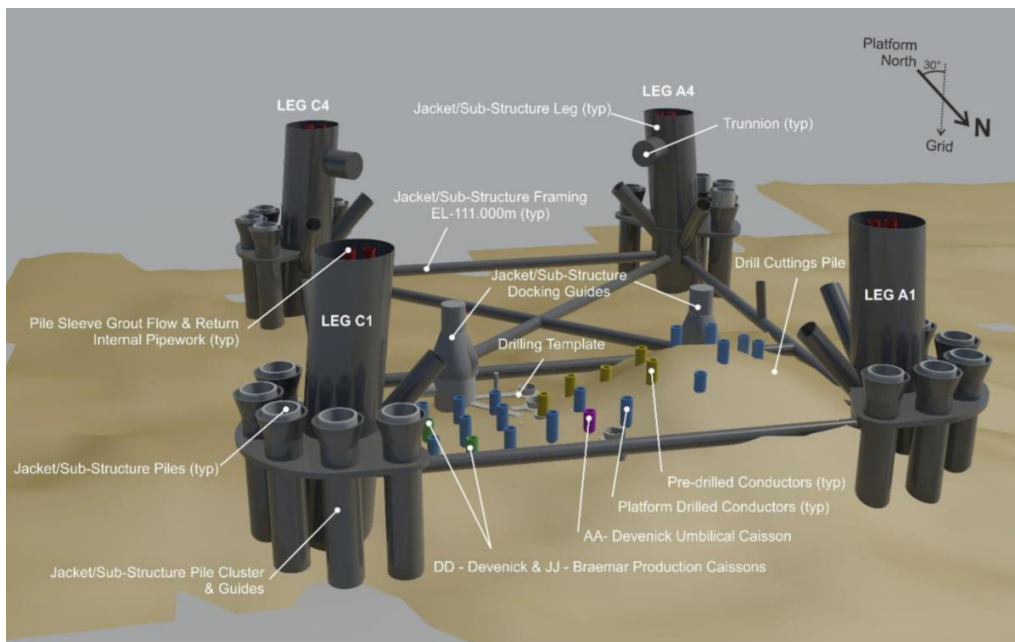


Figure 3.1: East Brae Footings

3.2 Upper Jacket Removal Methods

The removal methods considered by the East Brae Operator for the East Brae Upper Jacket are listed in Table 3.1. The Upper Jacket may be removed by HLV as a single component, or a number of components. The Upper Jacket will be transported to shore on the HLV deck, hanging on the HLV crane hooks, or on a barge or barges. The removal method selection considered semi-sub type lift vessels, as these offer greater capacity and flexibility than conventional monohull “ship shaped” crane vessels.

Table 3.1: East Brae Upper Jacket (Large Steel Jacket) Decommissioning Methods

1) HLV (Semi-submersible Heavy Lift Vessel) Cut and Lift		✓
2) Monohull crane vessel		
3) SLV (Single Lift Vessel)		✓
4) Piece Small – included as part of HLV Cut and Lift assessment		
5) Other; BTA (Buoyancy Tank Assembly)		✓
Scope	Method	Description
Remove Upper Jacket	SLV or HLV	Removal of the East Brae Upper Jacket can be achieved by cutting the Upper Jacket at the - 97m level and retrieving the Upper Jacket as a single component or multiple components by an SLV or HLV. However, transport and handling of the Upper Jacket in a single section more than 100 m presents several technical challenges, and the Upper Jacket is more likely to be removed in a number of sections.
Remove Upper Jacket	BTA	The use of BTAs is impracticable, as significant additional effort and resources are required to fabricate and install the BTAs, with little or no benefit in terms of schedule or overall resources required to execute Upper Jacket Removal.
Proposed Upper Jacket removal method and disposal route		<p>The Upper Jacket will be removed in one or more pieces by an SLV or HLV and taken ashore and dismantled at an appropriate facility. Most of the material recovered will be recycled.</p> <p>The final decision on removal method will be made by TAQA in consultation with the selected removal contractor. The tender evaluation and contractor selection process considers safety, environmental, socio-economic, and technical metrics as well as cost. TAQA and the selected decommissioning contractor(s) will address any trans-frontier shipment of waste issues to ensure that these are appropriately managed. TAQA will inform OPRED once the dismantling site(s), dismantling method, and recycling and disposal routes have been selected.</p>

3.3 Waste Streams

The methods for managing the waste streams from the East Brae Upper Jacket are listed in [Table 3.2](#). The ultimate disposition of the waste materials is described in [Table 3.3](#), and the proportions of materials that TAQA envisages reusing, recycling, and discarding are given in [Table 3.4](#).

Onshore cleaning and disposal will be carried out at appropriately licensed sites, in accordance with relevant legislation, including pertinent transboundary shipment controls. The potential discharges from the decommissioning process are discussed in Technical Appendix 4.1 of the Environmental Statement [2].

Table 3.2: East Brae Upper Jacket Waste Stream Management Methods

Waste Stream	Removal and Disposal Method
Carbon Steel	Carbon steel will be recycled.
Non-Ferrous Metals	Non-ferrous metals, principally material from sacrificial anodes will be recycled.
Other Material	Other material, principally paint, will be removed, and disposed of in accordance with relevant regulations and guidance.
NORM / Hazardous Materials	The Upper jacket primarily consists of steel. Significant quantities of NORM and hazardous materials are not anticipated. Appropriate checks will be carried out offshore and at onshore dismantling sites to confirm whether NORM and Hazardous Materials are present. If these materials are found appropriate safety, environmental and waste controls will be implemented.
Marine Growth	Marine growth will be disposed of either offshore under a marine licence, or onshore. Notwithstanding, marine growth will be disposed of in accordance with relevant regulations and guidelines.
Onshore Dismantling Sites	The removal contractor will use appropriately licenced dismantling and disposal sites. TAQA will ensure that the removal contractor and selected site have proven abilities to manage waste streams throughout the deconstruction process. The process will follow the “reduce, reuse, recycle” paradigm. TAQA will conduct assurance activities of the dismantling yard(s) and disposal site(s) to confirm that they are compliant with applicable legislation.

Table 3.3: Ultimate Waste Inventory Disposition

	Total Inventory	Planned Material to Shore (tonnes)	Planned Material Left in Situ (tonnes)
East Brae Jacket	≈ 8,340 ¹	≈ 8,340 ¹	0

¹Includes a conservative estimate of 834 tonnes of marine growth to provide safe margins for lifting. Marine growth may be removed or become detached at sea and may dry out before the Upper Jacket reaches the dismantling yard. Therefore, the weight of marine growth recovered at the yard may be significantly less than this estimate.

Table 3.4: Reuse, Recycling, and Disposal of Waste Material Returned to Shore (by Weight)

	Reuse	Recycle	Disposal
East Brae Jacket	0	90%	10%¹

¹ The bulk of the material that will be disposed of is marine growth. This may be removed and disposed of at sea or sent for composting or landfill onshore.

TAQA's intent is to maximise the reuse and recycling of materials that are returned to shore, and thereby minimise disposal of material in landfill. The material returned to shore will predominantly be structural steel, which is eminently recyclable. The proportion of the returned material that will be disposed of, rather than recycled, is very low.

TAQA recognises that there will be large quantities of material returned to shore for recycling, and disposal. Regardless of the ultimate destination of recovered materials, there will be sufficient notice provided to ensure that there is suitable capacity for processing landed material (taking cognisance of destination handling capacity and availability) and to allow all applicable regulatory bodies, stakeholders, and contractors to be engaged appropriately.

4 Environmental Impact Assessment

The Brae Operator originally completed an Environmental Impact Assessment (EIA) for decommissioning the East Brae installation, including the platform Upper Jacket and Footings in 2017. This assessment was based on survey data collected in 2015. TAQA has environmental survey data for the East Brae Area from before the platform was installed up to the 2015 data. These data show that seabed contamination as a consequence of the presence of the drill cuttings pile is diminishing over time. The East Brae Upper Jacket decommissioning operations will not involve any planned disturbance of the drill cuttings pile.

The Environmental Impact Assessment process considered the potential for significant environmental effects resulting from interactions between the proposed decommissioning activities and sensitive environmental receptors. The EIA was developed by means of a multistage scoping process with the aim of delivering a focused and proportionate EIA and Environmental Statement (ES) [2]. The process was developed in consultation with key stakeholders including, the Department of Business, Energy, and Industrial Strategy (BEIS), now the Department for Energy Security and Net Zero (OPRED), Joint Nature Conservation Committee (JNCC), Marine Scotland and the Scottish Environment Protection Agency (SEPA).

Following the scoping stage, the key issues identified for further detailed assessment were:

- Seabed disturbance effects
- Underwater noise effects
- Cumulative and transboundary effects

Given the length of time that had elapsed since completion of the original ES in 2017 [2], TAQA carried out an Environmental Gap Analysis in 2023 [3]. This considered the reduced scope of work involved in removing the Upper Jacket in comparison to the entire installation, changes in data concerning the environment around East Brae, changes in the methodologies used for environmental assessment, and other relevant factors.

The Gap Analysis considered the following main topics;

1. Environmental Survey Data
2. Conservation, including expansion of the Braemar Pockmarks SAC boundaries
3. Seabirds, the issue of disturbance of seabirds and application of the Conservation of Offshore Marine Habitats and Species Regulations 2017
4. Other Sea Users
5. The Scottish National Marine Plan
6. Atmospheric emissions
7. Net Zero considerations

The Environmental Statement Gap Analysis concluded that there have been substantive changes in some factors that are relevant to the East Brae ES. However, these either have no significant bearing on the project, or are adequately addressed by TAQA's existing management measures.

The factors that have undergone substantive change since the publication of the ES in 2017 are;

- **Conservation:** The Braemar Pockmarks SAC, which has expanded from approximately 5.2 km², to 11.4 km². However, this has no significant bearing on the project. The smallest separation between the enlarged SAC and East Brae is approximately 9.5 km, and removal of the upper jacket is very unlikely to impact the SAC in any way. Therefore, the conclusions of

the original ES remain valid and there is no requirement to modify the proposed East Brae Upper Jacket decommissioning methodology as a consequence of this change.

- **Seabirds:** The application of the Offshore Marine Habitats and Species Regulations 2017 potentially has an impact on East Brae Upper Jacket Decommissioning Operations. However, this has been highlighted by TAQA's other decommissioning projects and therefore TAQA has already implemented a Wild Birds Management Strategy to address this issue.

The other findings from the Gap Analysis are;

- **Environmental Survey Date:** The Gap Analysis determined that there are no significant differences in the environmental survey data that support the 2017 ES and the latest survey data from the East Brae area.
- **Other Sea Users:** Although there have been changes in the pattern of fishing in the East Brae Area these are not significant in the context of Upper Jacket removal.
- **National Marine Plan (NMP):** The NMP was not considered in the 2017 ES. However, the policies and procedures that TAQA has in place address the requirements of the NMP.
- **Atmospheric Emissions:** The 2017 ES addressed the full East Brae Platform and Braemar decommissioning scope. It did not state the Greenhouse Gas (GHG) emissions associated with removal of the Upper Jacket in isolation.
The 2023 Gap Analysis estimated the GHG emissions associated with Upper Jacket removal and onshore processing as circa 21,000 tonnes CO₂e. This equates to 0.15% of the total UK offshore oil and gas emissions in 2022, which were 14.3 million tonnes. Therefore, the GHG emissions associated with East Brae Upper Jacket decommissioning are not considered significant in terms of the overall GHG emissions from the UK continental sector.
- **Net Zero:** The Gap Analysis found that TAQA has strategies in place to reduce GHG emissions in line with societal expectations.

Overall, the gap analysis concluded that there is no need to modify the ES conclusions in light of changes to environmental data, or changes to the environmental assessment process.

The environmental sensitivities in the Brae Area are summarised in [Table 4.1](#). The environmental assessment has not identified any significant residual environmental effects resulting from activities described within these decommissioning programmes. However, TAQA is committed to the schedule of environmental management measures set out in the ES to further reduce the potential for environmental effects. These management measures are summarised in [Table 4.2](#).

Prior to commencing the decommissioning work, TAQA will obtain the necessary permissions including those relating to the Marine Licence regime, including any environmental survey and risk assessment requirements. Any necessary mitigation measures identified by this process will be implemented as required.

4.1 Environmental Sensitivities Summary

Table 4.1: Environmental Sensitivities Summary

Environmental Receptor	Main Features
Conservation Interests	<p>The Braemar Pockmarks SAC is approximately 9.4 km north northwest of East Brae.</p> <p>A Marine Life Study of the Brae Area infrastructure has not identified the presence of the cold water coral (<i>Lophelia</i> spp).</p>
Seabed	<p>The seabed community in the Brae Area is classed as representative of the Central North Sea and is dominated by the bristle worm (<i>Paramphinone jeffreysi</i>), with other species such as <i>Spiophanes bombyx</i>, <i>Galthowenia oculata</i>, <i>Tharyx killariensis</i> and <i>Pholoe assimilies</i> also present.</p>
Fish	<p>Several fish species are present in the Brae Area and use it for spawning and/or nursery grounds. These species include Norway pout, Nephrops, mackerel, haddock, and blue whiting. Basking shark, tope, porbeagle, common skate and angel shark may also be present in low numbers.</p>
Fisheries	<p>Commercial fishing in the Brae Area is dominated by demersal and shellfish fisheries, with fishing effort peaking during spring and autumn. Gear types used are trawls and seine nets. Peterhead is the main landing port for the area.</p>
Marine Mammals	<p>The seven most commonly sighted species of cetacean in the Brae Area are the harbour porpoise, Atlantic white-sided dolphin, white-beaked dolphin, Risso's dolphin, killer whale, minke whale and long-finned pilot whale. Pinnipeds have also been recorded in the form of grey and harbour seals.</p>
Birds	<p>Seabirds are present in the central North Sea throughout the year, though densities in the Brae Area tend to be lower due to the distance from coastal colonies. Seabird densities in the Brae Area are at their lowest in late spring/early summer during the breeding season. After this, diversity, and density of seabirds offshore increases. Seabirds are particularly vulnerable to surface pollutants during moulting (July) when the birds are flightless.</p>
Onshore Communities	<p>Onshore communities are potentially sensitive to disturbance from cleaning, dismantling and disposal activities. TAQA will select onshore decommissioning facilities that comply with all regulatory requirements to ensure that potential impacts are appropriately controlled.</p>
Other Users of the Sea	<p>There are no ferry routes and no known military users in the vicinity of the Brae Area. Recreation activity in the offshore North Sea is limited to occasional yachts in passage. Telecommunications cables are present in the area. No designated wreck sites or marine archaeological features are located within the area.</p>
Atmosphere	<p>The primary source of atmospheric emissions will be from vessel activity during decommissioning activities.</p>

4.2 Potential Environmental Impacts and Their Management

The EIA has not identified any significant residual environmental effects as a result of activities described within these decommissioning programmes. However, TAQA is committed to the schedule of environmental management measures set out in the ES to further reduce the potential for environmental effects. These management measures are summarised in [Table 4.2](#).

Table 4.2: Potential Environmental Impacts & Their Management

Activity	Main Impacts	Management
Upper Jacket Removal	Energy Usage and Atmospheric Emissions	All vessels will comply with MARPOL 73/78 Annex VI on air pollution and machinery will be maintained in an efficient state. The estimated GHG emissions generated by East Brae Upper Jacket decommissioning are circa 21,000 tonnes CO ₂ e. This equates to 0.15% of the 2022 emissions from the UK offshore oil and gas sector.
	Underwater Noise	Noise modelling has been conducted to identify the impacts of noise on marine mammals and potential mitigation measures. The results are documented within the Environmental Statement [2]. Procedures for vessel operations and underwater cutting will incorporate mitigation measures identified by the noise study. There are no plans to use explosives. However, should the use of explosives be necessary TAQA will complete appropriate evaluations and consultations prior to their use.
	Wild Birds	Management of impacts on wild birds in the vicinity of the East Brae Upper Jacket will be achieved through the TAQA Wild Birds Management Strategy.
	Discharges to Sea	Discharges to sea: Discharges from pipeline and umbilical risers will be minimised as far as practicable and controlled in accordance with the requirements of the relevant permitting regimes.
	Seabed Disturbance	No seabed disturbance is anticipated during the removal of the East Brae Upper Jacket.
	Accidental Events	The potential for spills, dropped objects or other contaminants to impact the ecosystem has been assessed. This assessment is documented in the Environmental Statement [2].

5 Interested Party Consultations

The East Brae Operator consulted a wide range of interested parties during the decommissioning planning stages, preparation of the environmental statements, and compilation of the decommissioning programmes. These included:

- BEIS (now the Department for Energy Security and Net Zero) Environmental Management Team
- BEIS Offshore Decommissioning Unit
- Greenpeace
- HSE (Health and Safety Executive)
- Joint Nature Conservation Committee
- Marine Conservation Society
- Marine Scotland
- National Federation of Fishermen's Organisations
- Oil and Gas Authority
- SEPA
- Scottish Fishermen's Federation
- WWF

The East Brae Operator also made information regarding decommissioning of the Brae Area available to other interested parties and the general public. This information is published via the TAQA Brae Decommissioning website, <https://eu.taqa.com/decommissioning-consultations-and-projects/>.

The East Brae Operator conducted public, stakeholder, and regulatory consultation on a previous decommissioning programme that included the East Brae Upper Jacket in 2017. Since then, the proposals for decommissioning the Upper Jacket have not changed. However, the information regarding decommissioning the East Brae Upper Jacket has been extracted and presented separately in the current decommissioning programmes. Because of this change, TAQA is issuing these decommissioning programmes for further consultation.

[Table 5.1](#) summarises comments received from stakeholders in 2017, and the Brae Operator's responses. Comments received in 2023 are presented in [Table 5.2](#)

Table 5.1: Summary of 2017 Consultation Statutory Stakeholder Comments

UK

Stakeholder	Comment	Response
The National Federation of Fishermen's Organisations	No comments received.	
Scottish Fishermen's Federation	The SFF sent its comments to Marathon Oil in a letter dated July 17th, 2017. The letter acknowledged Marathon Oil's engagement with the SFF regarding decommissioning of the Brae Area facilities. The SFF reiterated its overarching principal of return to clear seabed.	The East Brae Upper Jacket will be removed to shore for recycling and disposal.
Northern Irish Fish Producers' Organisation	No comments received	
Global Marine Systems Limited	No comments received	

Table 5.2: Summary of 2023 Consultation Statutory Stakeholder Comments

UK

Stakeholder	Comment	Response
The National Federation of Fishermen's Organisations (NFFO)	NFFO responded in an email dated April 28th, 2023.	"Due to the location of these assets SFF who we work closely with are best placed to comment where required and I can confirm the NFFO have no comment to add regarding these decommissioning plans".
Scottish Fishermen's Federation	SFF responded in an email dated June 12th, 2023.	"SFF have no adverse comments to offer regarding this particular DP".
Northern Irish Fish Producers' Organisation	No comments received	
Global Marine Systems Limited	Global Marine Systems responded in an email dated May 2nd, 2023.	"As the nearest active cable is located approx. 15km away from the program, I have no comments. In the event that the decom program changes, and seabed invasive operations are to occur near existing telecom infrastructure, it will be important to notify any nearby cable owners of any upcoming operations".

6 Programme Management

6.1 Project Management and Verification

TAQA, on behalf of the Section 29 Notice Holders, has appointed a project management team to manage the planning and execution of the East Brae Upper Jacket decommissioning. TAQA health, environmental and safety management principles will govern hazard identification, risk management and operational controls. The work will be coordinated with due regard to interfaces with other Operators' oil and gas assets and with other sea users. TAQA will control and manage the progress of all permits, licences, authorisations, notices, consents, and consultations required. Any changes to these decommissioning programmes will be discussed and agreed with OPRED.

6.2 Post-decommissioning Survey, Debris Clearance, and Verification

Following Upper Jacket removal, TAQA will visually confirm the Upper Jacket cut depth is in accordance with the approved decommissioning programmes. TAQA will agree a schedule with OPRED for further post decommissioning monitoring beyond the initial as left visual survey.

TAQA will pass the cut depth information to the UK Fisheries Offshore Oil and Gas Legacy Trust Fund Ltd for inclusion in the FishSAFE system, and to the United Kingdom Hydrographic Office for inclusion on Admiralty charts and notices to mariners. These notifications will be made as soon as practicable after removal of the Upper Jacket, in accordance with Notice to Mariners and Consent to Locate requirements.

Following full field decommissioning of the wider Brae Area facilities, TAQA will conduct a minimum of two post decommissioning environmental surveys, and two surveys of the area around the platform and connected pipelines. TAQA will also commission an independent debris clearance survey.

The debris clearance survey will likely be a visual survey by ROV, or potentially a side scan sonar survey. These are extremely unlikely to cause disturbance to the drill cuttings pile at East Brae. TAQA will discuss any intrusive debris survey techniques, e.g. chain mat trawl, with OPRED before such operations are undertaken.

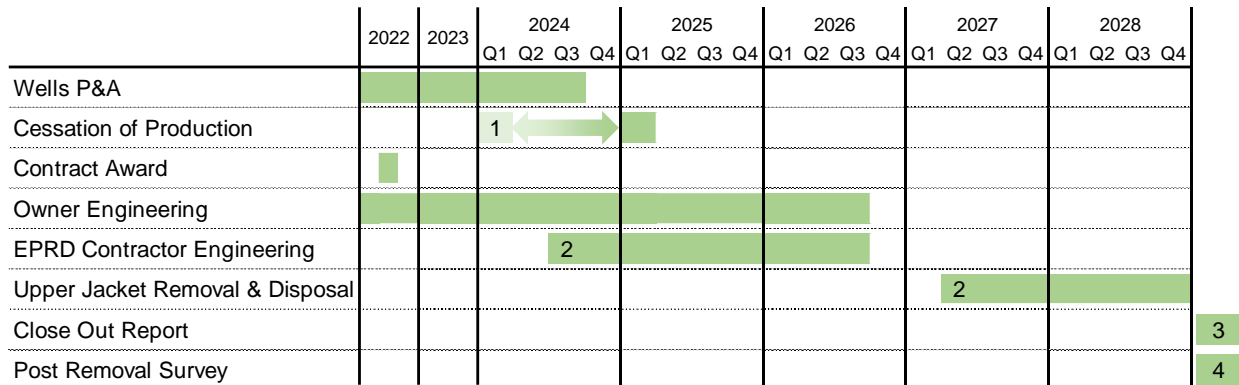
TAQA will agree requirements for further monitoring beyond these initial surveys and verification with OPRED.

6.3 Schedule

The main milestones in the East Brae Upper Jacket decommissioning process are anticipated to be:

- East Brae cessation of production: Q1 2025
 - East Brae platform topsides removal: 2026/27
 - East Brae Upper Jacket removal: 2027
 - Post Upper Jacket Removal visual cut depth confirmation 2027
 - Post removal survey: Post 2027
- (Subject to overall Brae Area decommissioning completion)

The anticipated East Brae Upper Jacket decommissioning schedule is shown in [Figure 6.1](#). This schedule may change to maximise economic recovery, or to exploit opportunities to minimise decommissioning impacts by combining Brae Area decommissioning activities into campaigns, or by combining Brae Area decommissioning operations with third-party decommissioning.



█ Planned Activity Window

1 Cessation of Production is planned in Q1 2025. This may occur earlier depending on well and plant performance.

2 EPRD Contractor Engineering, Removal and Disposal timings are dependent on the selected Decommissioning Contractor

3 Close out Report issued after East Brae Jacket removal activities described in this DP

4 Post Removal Survey conducted after Brae Area decommissioning completion

Note: Actual execution windows will be subject to contractor portfolio and availability, and removal may be accelerated should Cessation of Production occur earlier than anticipated

Figure 6.1: East Brae Upper Jacket Decommissioning Schedule

6.4 Long Term Facilities Management

The planned decommissioning of the Brae Area will take place over an extended period. Throughout this period, the Brae platforms and subsea installations will be in various stages of decommissioning and remediation. At all times, the Brae facilities will be maintained to a standard that enables completion of the programmes safely and in compliance with regulations and TAQA’s corporate standards.

6.5 Costs

TAQA has used the work breakdown structure presented in Table 6.1 [9] to develop cost estimates for the East Brae Upper Jacket and Associated Riser Sections decommissioning programmes. The provisional estimated costs have been provided to OPRED in confidence.

Table 6.1: Provisional Decommissioning Costs

Item	Estimated Cost (£ Million)
WBS 1 – Operator Project Management	
WBS 2 – Post CoP OPEX	
WBS 3 – Well Abandonment	
WBS 4 – Facilities & Pipelines Permanent Isolation & Cleaning	
WBS 5 – Topsides Preparation	
WBS 6 – Topsides Removal	
WBS 7 – Substructure Removal	
WBS 8 – Onshore Recycling	
WBS 9 – Subsea Infrastructure	
WBS 10 – Site Remediation	
WBS 11 – Monitoring	

6.6 Close Out

A close out report will be submitted to OPRED within twelve months of the completion of the East Brae Upper Jacket offshore decommissioning work scopes and material disposal. Any variances from the approved decommissioning programmes will be described and explained in the close out report.

6.7 Post-Decommissioning Monitoring and Evaluations

Following completion of the East Brae Upper Jacket decommissioning activities detailed in this document and the wider Brae Area activities described in the associated decommissioning programmes [10], TAQA will carry out the following monitoring and survey activities as a minimum;

- Following East Brae Upper Jacket removal
 - Initial as left visual confirmation that the Upper Jacket has been removed in accordance with the decommissioning programmes.
- Following completion of Brae Area decommissioning
 - An independent debris clearance verification survey.
 - Two post decommissioning environmental surveys, focusing on chemical and physical disturbances resulting from decommissioning with reference to the findings of pre decommissioning surveys.
 - Two surveys of the area around the platform footings and the 500 m zone, and
 - Two surveys 50 m either side of the connected pipelines.

Copies of the survey results will be forwarded to OPRED for review. TAQA will then agree a post removal survey schedule with OPRED taking account of the findings of previous surveys and continuing liabilities. The schedule will apply a risk based approach to planning the frequency and scope of further surveys.

6.8 Management of Residual Liability

The Footings and associated riser sections that are left in place following the completion of the Upper Jacket and Associated Riser Sections Decommissioning Programmes will remain the property and responsibility of the East Brae Section 29 Notice Holders and will be subject to separate decommissioning programmes.

The East Brae Operator recognises that the parties to the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes will continue, post completion of the programmes, to retain ownership of, and residual liability for any infrastructure left in place.

The presence of the East Brae Footings will be communicated and published through bulletins and the FishSAFE electronic hazard charting system and by marking the structures on Admiralty charts as appropriate.

TAQA will engage with OPRED on all future legacy and liability matters relating to the Brae Area facilities.

7 Supporting Documents

- [1] Guidance Notes Decommissioning of Offshore Oil and Gas Installations and Pipelines November 2018, BEIS
- [2] East Brae and Braemar Combined Decommissioning Programmes, Environmental Statement: Main Report, 9030-MIP-99-EV-RT-00002-000, Marathon Oil Decommissioning Services, June 2017
- [3] East Brae Upper Jacket Decommissioning Programme Environmental Statement Gap Analysis, 77IFS-215886-F99-0001, TAQA, December 2023
- [4] East Brae Topsides and Braemar Decommissioning Programmes, 9030-RRE-99-PM-RT-00001-000, RockRose Energy LLC, July 2020
- [5] Devenick Decommissioning Programme, TB-DEVDEC01-X-AD-0001, TAQA
- [6] Future Brae Area Trunk Pipelines Decommissioning Programme, 9000-TAQ-99-PL-TB-00001-000
- [7] East Brae Jacket Removal Options – Technical Review, 9030 GEN 99 PM RT 00001 000, Genesis, October 2015
- [8] East Brae Jacket Removal Study Re-assessment, J75362A-A-RT-00001/B2, Genesis, August 2020
- [9] Decommissioning Work Breakdown Structure Guidelines, Oil and Gas UK (now Offshore Energies UK), October 2019
- [10] Brae Alpha, Brae Bravo, Central Brae, West Brae, and Sedgwick Combined Decommissioning Programmes, 9000-MIP-99-PM-RP-00003-000, I02, Marathon Oil UK LLC, June 2017

8 Section 29 Holders' Letters of Support



Offshore Petroleum Regulator for Environment and Decommissioning

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

25 June 2024

Dear Sir,

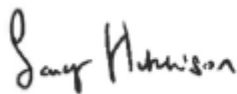
**EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS
DECOMMISSIONING PROGRAMMES
PETROLEUM ACT 1998**

We acknowledge receipt of your letter dated 14th June 2024.

We, TAQA Bratani Limited, confirm that we authorise TAQA Bratani Limited to submit on our behalf abandonment programmes relating to the East Brae Upper Jacket and Associated Riser Sections as directed by the Secretary of State on 14th June 2024.

We confirm that we support the proposals detailed in the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes dated June 2024 (Revision 08) which is to be submitted by TAQA Bratani Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully



Sandy Hutchison
Legal, Commercial and Business Services Director
For and on behalf of TAQA Bratani Limited



Offshore Petroleum Regulator for Environment and Decommissioning

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

25 June 2024

Dear Sir,

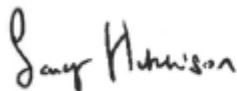
**EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS
DECOMMISSIONING PROGRAMMES
PETROLEUM ACT 1998**

We acknowledge receipt of your letter dated 14th June 2024.

We, TAQA Bratani LNS Limited, confirm that we authorise TAQA Bratani Limited to submit on our behalf abandonment programmes relating to the East Brae Upper Jacket and Associated Riser Sections as directed by the Secretary of State on 14th June 2024.

We confirm that we support the proposals detailed in the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes dated June 2024 (Revision 08) which is to be submitted by TAQA Bratani Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully



Sandy Hutchison
Legal, Commercial and Business Services Director
For and on behalf of TAQA Bratani LNS Limited



Spirit Energy Resources Limited

5th Floor
iQ Building
15 Justice Mill Lane
Aberdeen
AB11 6EQ

Telephone: 01224 415000
www.spirit-energy.com

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

3rd July 2024

Dear Sir or Madam,

**EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS DECOMMISSIONING PROGRAMMES
PETROLEUM ACT 1998**

We acknowledge receipt of your letters dated 14th June 2024.

We, Spirit Energy Resources Limited, confirm that we authorise TAQA Bratani Limited to submit on our behalf abandonment programmes relating to the East Brae Upper Jacket and Associated Riser Sections as directed by the Secretary of State on 14th June 2024.

We confirm that we support the proposals detailed in the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes dated June 2024 (Revision 08) which is to be submitted by TAQA Bratani Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,

DocuSigned by:

Scott McGinigal

04/7/2024 10:00 AM
Scott McGinigal

Technical Services and HSES Director

For and on behalf of Spirit Energy Resources Limited



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

Date: 4 July 2024

Dear Sir or Madam

EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS DECOMMISSIONING PROGRAMMES PETROLEUM ACT 1998

We acknowledge receipt of your letter dated 14th June 2024.

We, NEO Energy Petroleum Limited, confirm that we authorise TAQA Bratani Limited to submit on our behalf abandonment programmes relating to the East Brae Upper Jacket and Associated Riser Sections as directed by the Secretary of State on 14th June 2024.

We confirm that we support the proposals detailed in the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes dated June 2024 (Revision 08) which is to be submitted by TAQA Bratani Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully

DocuSigned by:

6923513F9682E48E

Andrew McIntosh
General Counsel and Head of Business Services
For and on behalf of NEO Energy Petroleum Limited



BP exploration Operating Company Limited
1-4 Wellheads Avenue
Dyce
Aberdeen
AB21 7PB

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

Date: 20th June 2024

Dear Sir or Madam,

East Brae Upper Jacket and associated riser sections Decommissioning Programme

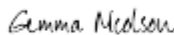
We acknowledge receipt of your letter dated 14th June 2024

We, Bp Exploration Operating Company Limited, remain in receipt of a notice under section 29 of the Petroleum Act 1998 ("Section 29 Notice") in relation to certain facilities located at the East Brae Field.

In such capacity and in so far as relevant to such facilities, we confirm that TAQA Bratani Limited is authorised to submit on our behalf abandonment programmes relating to the East Brae upper jacket and associated riser sections.

Yours faithfully,

DocuSigned by:



ESC00DA7827004000

Gemma Nicolson

Senior Finance Manager, bp North Sea



eni ukcs

Registered Office
Eni UKCS Limited
Eni House, 10 Ebury Bridge Road
London SW1W 8PZ
United Kingdom
Registered in England & Wales
(Company number 1019748)
Tel: +44 (0) 20 7344 6000
Fax: +44 (0) 20 7344 6044

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

Ref: DERE2024-L008/1048014
London, 17th July 2024

Dear Sir/Madam,

**EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS
DECOMMISSIONING PROGRAMMES
PETROLEUM ACT 1998**

We acknowledge receipt of your letters dated 14th June 2024.

We, Eni UKCS Limited, confirm that we authorise TAQA Bratani Limited to submit on our behalf abandonment programmes relating to the East Brae Upper Jacket and Associated Riser Sections as directed by the Secretary of State on 14th June 2024.

We confirm that we support the proposals detailed in the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes dated June 2024 (Revision 08) which is to be submitted by TAQA Bratani Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,



Richard Waterlow,
Director
For and on behalf of Eni UKCS Limited

GB Gas Holdings Limited
Millstream
Maidenhead Road
Windsor
Berkshire SL4 5GD

Telephone 01753 494000
Facsimile 01753 494001
Website: www.centrica.com

To:

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

Date: 17 July 2024

Dear Sir or Madam,

**EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS DECOMMISSIONING PROGRAMMES
PETROLEUM ACT 1998**

We acknowledge receipt of your letter dated 14th June 2024.

We, GB Gas Holdings Limited, confirm that we authorise TAQA Bratani Limited to submit on our behalf abandonment programmes relating to the East Brae Upper Jacket and Associated Riser Sections as directed by the Secretary of State on 14th June 2024.

We confirm that we support the proposals detailed in the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes dated June 2024 (Revision 08) which is to be submitted by TAQA Bratani Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,

DocuSigned by:

74B84C0155D749E

Russell O'Brien
Group Chief Financial Officer

For and on behalf of GB Gas Holdings Limited



ENI Energy E&P UKCS Limited
Nova North
11 Bressenden Place
London
SW1E 5BY

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

16th July 2024

Dear Sir/Madam,

**EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS
DECOMMISSIONING PROGRAMMES
PETROLEUM ACT 1998**

We acknowledge receipt of your letter dated 14th June 2024.

We, ENI Energy E&P UKCS Limited, confirm that we authorise TAQA Bratani Limited to submit on our behalf abandonment programmes relating to the East Brae Upper Jacket and Associated Riser Sections as directed by the Secretary of State on 14th June 2024.

We confirm that we support the proposals detailed in the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes dated June 2024 (Revision 08) which is to be submitted by TAQA Bratani Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully,



Giovanni Grugni
Director

For and on behalf of ENI Energy E&P UKCS Limited



REPSOL RESOURCES UK LIMITED

163 Holburn Street
Aberdeen
AB10 6BZ

VAT Number: GB394805910

T +44 (0)1224 352500
W www.repsolresourcesuk.com

8 July 2024
Our Ref: 24GEN001/GB

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

Dear Sir or Madam

**EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS
DECOMMISSIONING PROGRAMMES
PETROLEUM ACT 1998**

We acknowledge receipt of your letters dated 14th June 2024.

We, Repsol Resources UK Limited confirm that we authorise TAQA Bratani Limited to submit on our behalf abandonment programmes relating to the East Brae Upper Jacket and Associated Riser Sections as directed by the Secretary of State on 14th June 2024.

We confirm that we support the proposals detailed in the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes dated June 2024 (Revision 08) which is to be submitted by TAQA Bratani Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully



Director

For and on behalf of **Repsol Resources UK Limited**



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

REPSOL LNS LIMITED

163 Holburn Street
Aberdeen
AB10 6BZ

VAT Number: GB394805910

T +44 (0)1224 352500
W www.repsolresourcesuk.com

8 July 2024
Our Ref: 24GEN001/GB

Dear Sir or Madam

**EAST BRAE UPPER JACKET AND ASSOCIATED RISER SECTIONS
DECOMMISSIONING PROGRAMMES
PETROLEUM ACT 1998**

We acknowledge receipt of your letters dated 14th June 2024.

We, Repsol LNS Limited confirm that we authorise TAQA Bratani Limited to submit on our behalf abandonment programmes relating to the East Brae Upper Jacket and Associated Riser Sections as directed by the Secretary of State on 14th June 2024.

We confirm that we support the proposals detailed in the East Brae Upper Jacket and Associated Riser Sections Decommissioning Programmes dated June 2024 (Revision 08) which is to be submitted by TAQA Bratani Limited in so far as they relate to those facilities in respect of which we are required to submit an abandonment programme under section 29 of the Petroleum Act 1998.

Yours faithfully

Director

For and on behalf of **Repsol LNS Limited**

CONTACT

TAQA Bratani Limited
TAQA House
Prime Four Business Park, Kingswells,
Aberdeen, AB15 8PU,
Scotland UK

Tel: +44 (0)1224 275275

www.taqa.com

