HEWETT INSTALLATION 48/29B

PARTIAL

DECOMMISSIONING PROGRAMME

VENT STACK REMOVAL AND PREPARATION WORKS

FINAL VERSION

Document Verification

	Name	Signature	Date
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Approved by	R. Innes		08/04/2019

Revision History

Rev.	Date	Nr. of sheets	Description
1B	04/01/2019	20	Pre-Draft submission for discussion with OPRED
2	14/01/2019	20	Incorporate OPRED observations and comments
2B	14/01/2019	19	Include Approver's comments
3A	30/01/2019	19	Incorporate further OPRED comments
4	31/01/2019	19	Update Schedule and final OPRED comments
5	04/02/2019	19	Update OPRED Comments amend document Numbers
6	08/04/2019	21	Issue as Final Version

Distribution List

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Terms and Abbreviations

Abbreviation	Explanation
ALARP	As Low As Reasonably Practicable
ASCO	ASCO Great Yarmouth Licenced Waste Management Contractor
Eni	Eni Hewett Limited. a wholly owned subsidiary of Eni UK Limited
F&G	Fire and Gas
FTP	Field Terminal Platform
HCs	Hydrocarbons
HSE	Health and Safety Executive, Offshore Safety Directive regulator
Km	Kilometre
LOLER	The Lifting Operations and Lifting Equipment Regulations 1998
LSA	Low Specific Activity scale
LQ	Living Quarters
m	Metres
N/A	Not Applicable
nM	Nautical Mile
NORM	Naturally Occurring Radioactive Materials
NRV	Non Return Valve
OGA	Oil and Gas Authority
OPRED	Offshore Petroleum Regulator for Environment & Decommissioning
P&A	Plug and Abandon / Plugging and Abandonment
PSR	Pipeline Safety Regulations
PWAV	Pipeline Works Authorisation Variation
SW	South West
Te	Weight, Metric Tonne
TBA	To Be Advised
UK	United Kingdom
UKCS	United Kingdom Continental Shelf
UTM	Universal Transverse Mercator
WGS	World Geodetic System of 1984

Tables

Figures

1.0 EXECUTIVE SUMMARY

1.1 DECOMMISSIONING PROGRAMME

This document comprises a Decommissioning Programme for a discrete area which is part of the Hewett 48/29B installation.

This Partial Decommissioning Programme is to cover the removal of the Vent Stack (two vent pipes tied together) in the South West corner of the 48/29B platform.

A rig is due to be engaged to plug and abandon (P&A) the platform wells on 48/29B platform, with a planned arrival in October 2019. The Vent Stack needs to be removed to avoid a clash with the rig cantilever deck when mobilising over the well bay area on the platform. In order to perform this scope of work and prepare the platform for the rig arrival, some additional preparatory works will be required.

The Vent Stack was designed for discharging gas safely in a production context from the topsides process systems and well annuli, for venting, blowing down, purging and cleaning. During the preparatory works the topsides and pipeline gas will be blown down to atmospheric pressure prior to the vent removal. Where appropriate, any hydrocarbons required to be disposed of will be injected into the wells for disposal.

After the Vent Stack has been removed, any further venting requirements during the preparatory works will be via an alternative temporary arrangement and implemented under an Operational Risk Assessment:

- Post rig arrival, venting will be diverted via the rig systems.
- Wellheads and annuli will be routed to temporary vent lines

After the topsides have been made hydrocarbon free, including abandonment of the wells, the Vent Stack and associated lines will no longer be required.

If the Vent Stack is not removed, the obstruction to the movement of the rig cantilever will result in additional offshore works that will have environmental and cost implications. It would also restrict Eni's flexibility to select the optimum rig, to position the rig for the well P&A and to investigate and implement alternative removal methodologies, as per the expectations set out by the Oil and Gas Authority (OGA). This in turn would potentially result in additional costs for all parties involved.

Preparatory works will be undertaken on the platforms 48/29B and 48/29A-FTP to make the topsides and export pipeline (PL84) hydrocarbon free, and to enable Vent Stack removal in advance of the rig arrival for platform well P&A.

Other preparatory works required prior to the rig arrival include the following:

- Removing hydrocarbons from the 48/29B topsides including the following scopes:
- Make necessary isolations, venting, purging, check for NORM .
- Break PL84 line at FTP, remove barred Tee and associated pipework to install temporary 24" pig launcher. This is required to isolate PL84 from the process plant on 29A-FTP, to allow the rest of the field to continue production,
- Modify pipework at 29B riser (linalog flange, re-align NRVs) to allow flushing fluids to be transferred to disposal wells on 29B and installation of temporary pipework for taking the flushed materials from the pipeline to the 29/B wells for disposal,
- Pigging Flush topsides pipework, vessels and PL84 to acceptable cleanliness standard:,
- Disconnect and flush hydraulics
- Air gap pipeline PL84 on 29B and 29A FTP

- Rigless well pre-works in advance of rig arrival: wireline operations, drift runs, perforating, filling and circulating well bore fluids to kill weight fluid to reduce costs and rig time.
- Prepare for rig interface: e.g. clear deck area as required for interface tower/gangplank, install and modify cabling for communications, lighting, F&G controls, emergency links etc.
- Remove vent and deluge pipework in well bay area to clear space for the well P&A operations, remove short spool piece from the flowline at each wellhead.
- Remove redundant equipment and potential dropped objects from topsides where time and resources are available.

A separate Decommissioning Programme will be submitted for the full platform decommissioning and removal for 48/29B and the other 5 platforms in the Hewett Fields Area, for which a pre-draft document is currently under discussion with OPRED.

In addition a separate Decommissioning Programme will be submitted for the subsea infrastructure in the Hewett field Area. Associated consents such as PWAV, PSR Notifications, and Environmental related permitting application, and notifications will be submitted to relevant authorities such as OGA, HSE, OPRED

The work carried out under this Partial Decommissioning Programme will not prejudice any other further decommissioning work on the 48/29B platform.

1.2 REQUIREMENT FOR DECOMMISSIONING PROGRAMME

In accordance with the Petroleum Act 1998, the Section 29 notice holders of the Hewett installations (see Table 1.1) are applying to OPRED to obtain approval for decommissioning a discrete area of the installation detailed in Section 2.0 of this Partial Decommissioning Programme. (See also Section 7.0 - Partner Letters of Support).

The Partial Decommissioning Programme is submitted in compliance with national and international regulations and OPRED guidelines. The schedule outlined in this document is for a two month Decommissioning Project plan due to begin in May 2019.

The Cessation of Production application for the field was approved by the OGA on 12 February 2019.

Table 1.1 - Installation Section 29 Notice Holders Details

Section 29 Notice Holders	Registration Number	Equity Interest (%)
ConocoPhillips Petroleum Company U.K. Limited	00792712	0%
Eni Hewett Limited (formerly Tullow Oil UK Limited)	SC090159	51.68694%
Eni LNS Limited	00970280	12.96239%
Eni UK Limited	00862823	24.66400%
Perenco Gas (UK) Limited (formerly Superior Oil (U.K.) Limited)	00715529	10.68667%

1.3 OVERVIEW OF INSTALLATIONS BEING DECOMMISSIONED

The Hewett Gas Field is located in the Southern North Sea about 22 km from the Norfolk coast, with cessation of production planned to commence in 2019.

The Vent Stack subject of this Partial Decommissioning Programme is located on platform 48/29B and was used for the safe dispersion of Hydrocarbon Gas released through process and wellbore venting mechanisms. The Vent Stack pipework is carbon steel and each of the 2 vent pipes within the stack is 19m in length, 16 inch diameter approximate weight 4.2 Te per pipe, the twin pipe Vent Stack reaching a height of 19 meters above Main deck. After making the platform hydrocarbon free, the Vent Stack will no longer be required.

2 options were evaluated for delivering the scope of work:

- Option 1 and the selected option: 48/29B Vent Stack Removal Methodology ENI-HEW-WC400314-M-MTD-0001 proposes to use the existing on-platform crane resource and a staged dismantlement in a manner compliant with ALARP and LOLER for lifting arrangements
- Option 2: Hire and utilization of a lift barge with sufficient cranage capacity and height to execute a single lift.

Option 1 involves pre-rigging each vent pipe prior to cutting around 12m from the top of the stack; a single circular cut will be carried out. Top section will then be removed by platform crane to lay-down area and cradles. Remaining section will be split at the bottom flange and removed by crane to laydown area. The operation will then be repeated for the remaining stack. The cut sections will be back loaded onto a supply vessel for transport to shore and recycling via the normal operations waste disposal route (see section 3.0)

Option 2 was discounted following an early indication of significantly higher costs, the introduction of major accident hazards for ship collision, and the increased environmental emissions associated with another asset in combined operations.

In this instance the removal of the Vent Stack will not require a Material Change to the Safety Case, and will assessed and managed under the Field Management of Change process. After the pipeline has been vented to atmospheric pressure, the residual contents will be injected into the wells and an alternative route for venting other small volumes of gas will be provided with temporary pipework. A Safety Case plan has been discussed with the HSE and a Material Change will be made after the platform has been made fully hydrocarbon free.

1.4 FIELD LOCATION INCLUDING FIELD LAYOUT AND ADJACENT FACILITIES

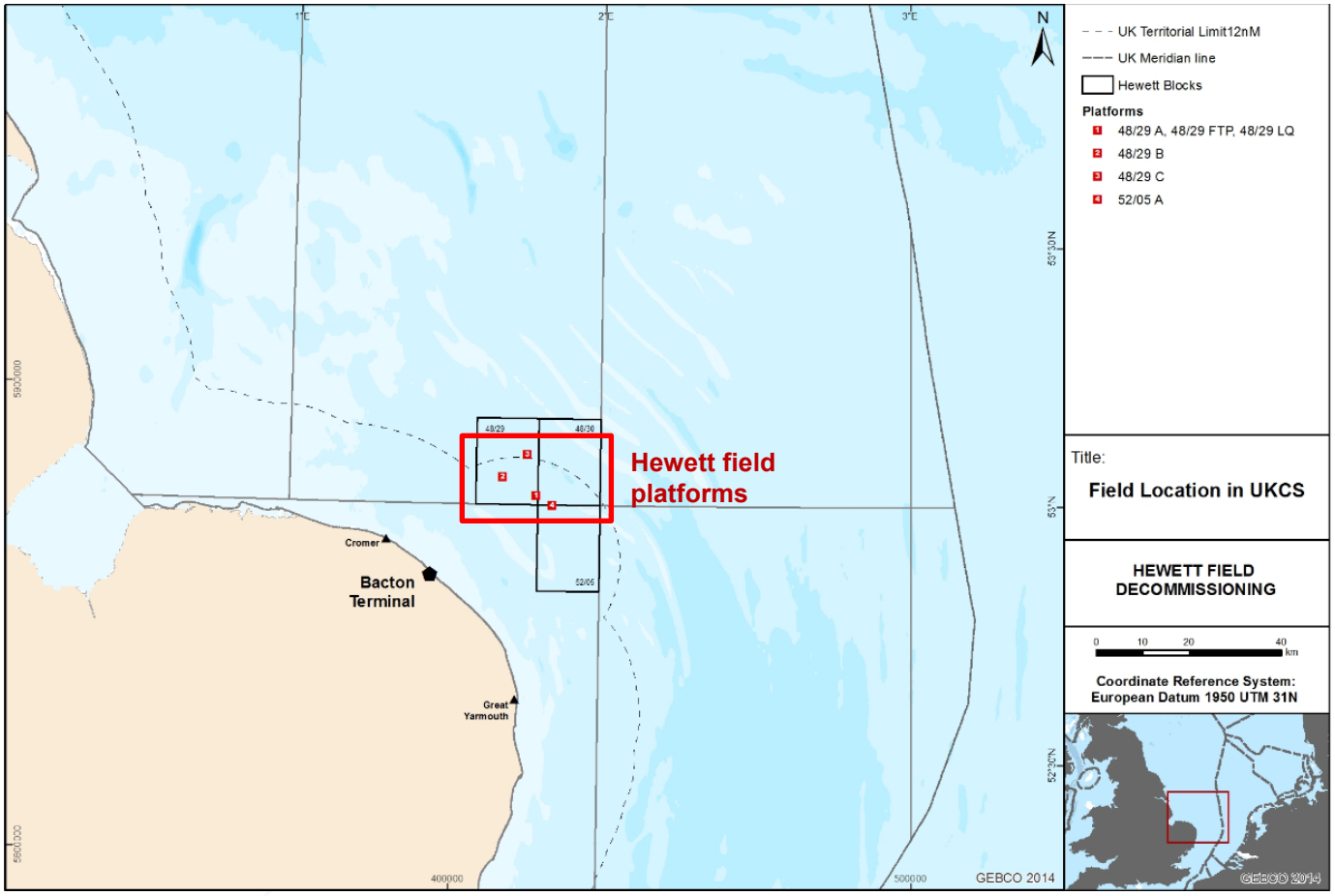

Figure 1.1- Field Location in UKCS

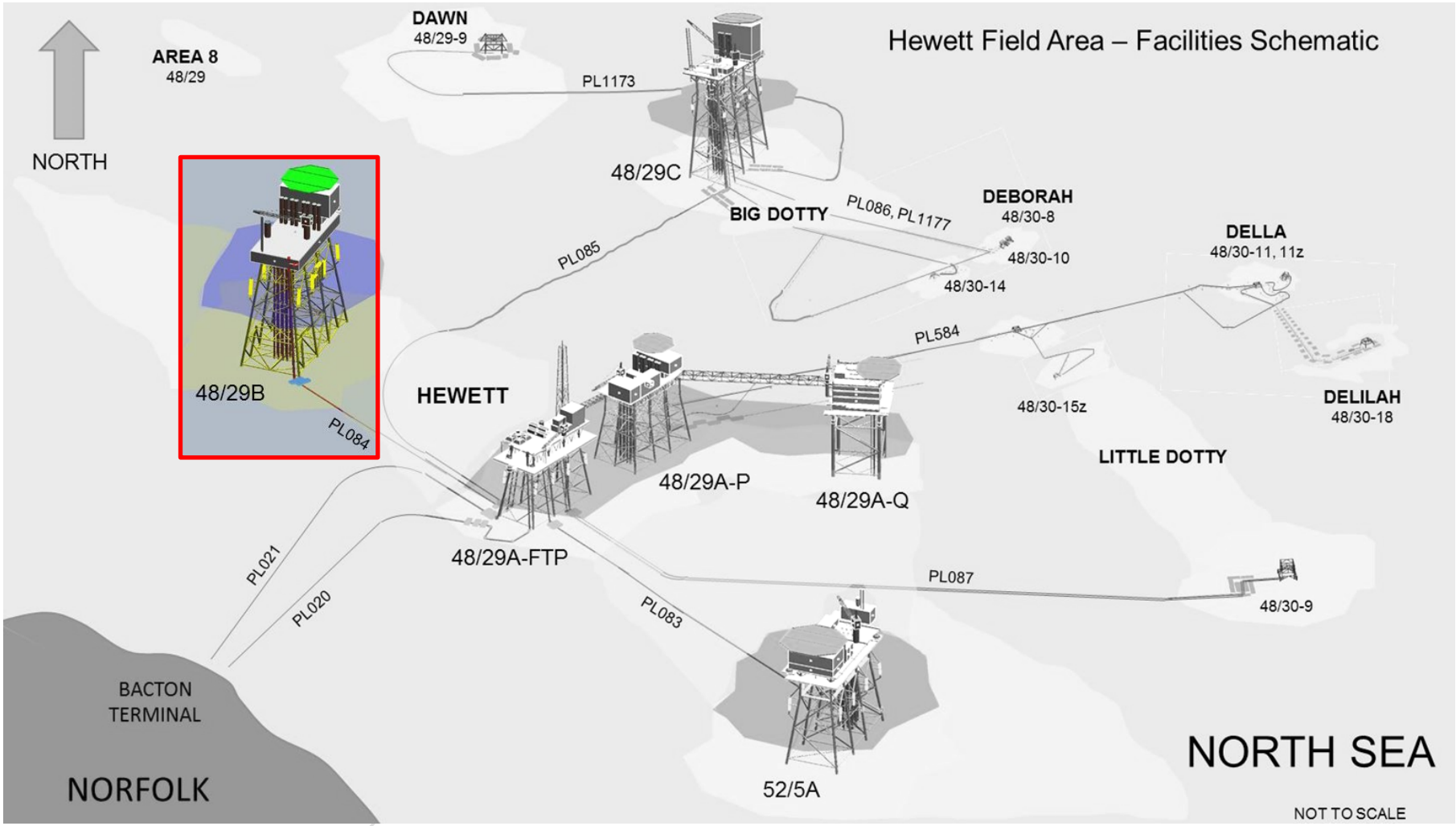

Figure 1.2 - Hewett Field Area Facilities Schematic

2.0 DESCRIPTION OF ITEMS TO BE DECOMMISSIONED

2.1 INSTALLATION

Table 2.1 – Area of Installation and Related Work

Facility	Description of the Ring-fenced Area of Work	Size/ Weight	Location		Reason for early Removal
Hewett 48/29B	Vent Stack removal. Related works: pipework preparation for flushing of topsides and pipeline for hydrocarbon removal (including pipeline pigging and flushing), rigless well intervention prior to rig arrival, clear well bay area and rig interface works in preparation for drilling rig arrival for the P&A of the platform wells.	Vent Stack has 2 pipes each is 19m in length, 16 inch diameter Approx. weight 4.2 Te per pipe	WGS84 Decimal	53.053997 01.684644	The Vent Stack needs to be removed to clear any obstructions for rig access for the well P&A.
			WGS84 Decimal Minute	53°03'14.388"N 01°41'04.718"E	

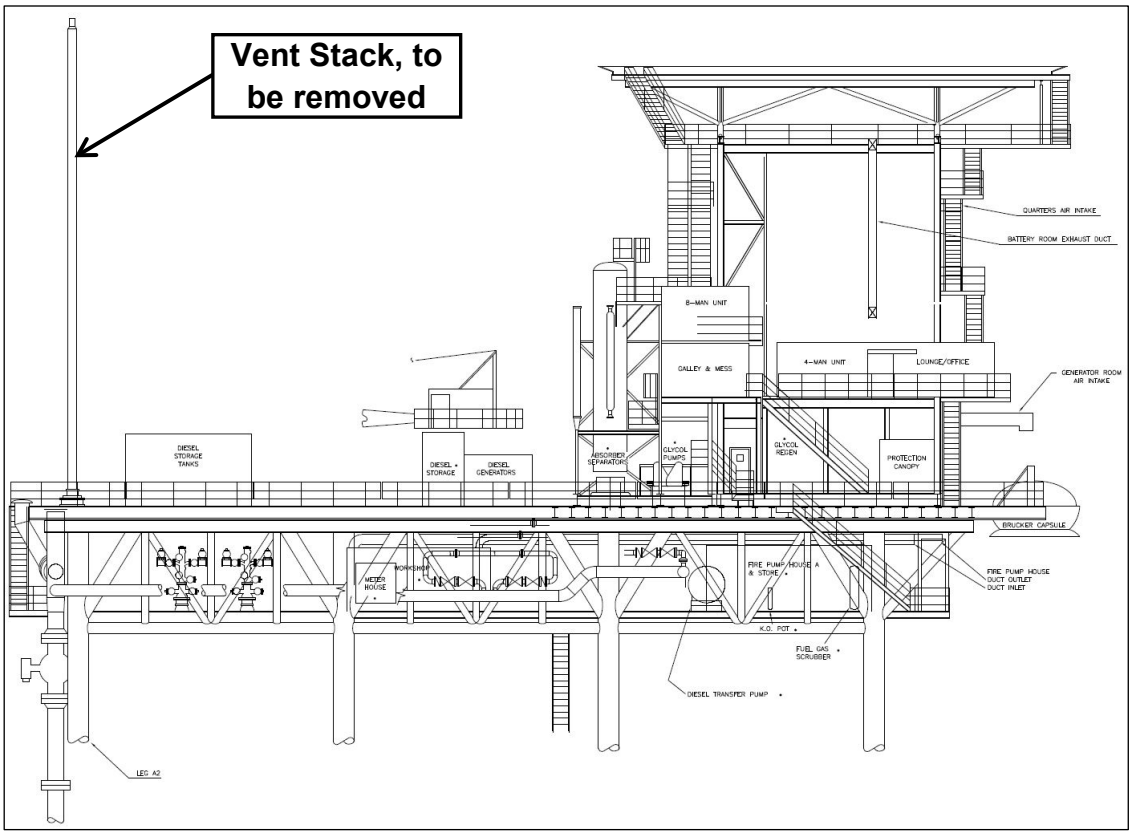

Figure 2.1 - Vent Stack location on 48/29B

Figure 2.2 – Photograph of Vent Stack, SW corner of Platform

2.2 INVENTORY ESTIMATES

Quantities have been estimated based on documentation review and non-intrusive surveying work. Intrusive surveying and sampling will be undertaken as the decommissioning project progresses, to provide a more accurate quantification of the installations inventories, particularly those of a hazardous nature.

The table below summarises the current estimated breakdown of materials to be removed in the Vent Stack scope of work. Waste fluid volumes are unknown at this time.

Table 2.2 – Inventory Estimate

Material	Weight (Te)	Estimated Volume (m^3)
Steel	< 10 Te total (Each pipe weighs 4.2 Te)	20
Concrete	N/A	N/A
Plastic	Minimal	Minimal
Non-Ferrous	N/A	N/A
Hazardous *[1]*	None Envisaged	None Envisaged
Radioactive Waste (NORM etc.) *[1]*	None Envisaged	None Envisaged
Other (Waste Fluids) *[2]*	TBA	TBA

Notes:

[1] See Table 3.1.

[2] Waste fluid volumes will be formally recorded and detailed in the close out report for the Partial decommissioning Programme activity.

3.0 REMOVAL AND DISPOSAL METHODS FOR WASTES

Removal and transportation to shore of the Vent Stack will be managed by the current field supply vessel and disposal arrangements to Great Yarmouth or Lowestoft Harbour. Once onshore, items will be disposed of by waste management company ASCO. ASCO is audited regularly to ensure all materials are disposed of by a licenced disposal facility. All metallic materials in the Vent Stack will be recycled where possible.

The primary route for disposal of flushed liquids will be into the wells on 48/29B. Any flushed materials which cannot be injected into the wells, or produced after the wells have been plugged, likely to be only small quantities, will be shipped to shore for disposal appropriately by an approved contractor.

No materials are planned to be discharged to the marine environment. Extensive risk assessment and management activities are applied to minimize the risk of unplanned release into the environment to a level of ALARP. Robust plans to deal with management of potential/actual leaks and spills are in place on the facility, control measures will be contained within work packs and permits to work.

No materials will be exported outside the UK for disposal.

Table 3.1 - Waste Stream Management Methods

Waste Stream	Cleaning, Removal and Disposal Method
NORM/LSA Scale	No NORM/LSA is expected to be present in the Vent Stack.
Asbestos	*There is a possibility that some of the flange gaskets on the bottom flange may contain asbestos. Normal platform procedures will be followed for removal and disposal. They will be bagged, tagged and sent onshore for disposal.*
Other hazardous wastes	*Any other hazardous waste will be recovered to shore and disposed of under appropriate permit(s) and according to appropriate regulations and company policies. No other hazardous wastes are foreseen to be present.*
Onshore Dismantling Sites	*Duty Holder Petrofac utilise ASCO who are an approved waste disposal company. At this stage of the project, any material other than the Vent Stack that are to be removed will be minimal.*

Disposal of Radioactive Material Including LSA

It is currently anticipated that there will be no LSA scale issues associated with the decommissioning of the Vent Stack on Asset 48/29B and in any associated process piping and pipeline pigging and flushing. Routine pre-works testing will be carried out to ensure this, and if any is found appropriate control measures will be implemented.

Waste Management Plan

Notwithstanding that a comprehensive Waste Management Plan will be developed for all waste disposal activities for the decommissioning project overall, in the interim the Duty Holder's and waste disposal contractor procedures will be followed and audited during the transition phase. A detailed audit programme is in place to ensure that all waste disposal routes and facilities are fully audited to ensure regulatory compliance.

4.0 ENVIRONMENTAL APPRAISAL OVERVIEW

As this work is to remove topsides equipment, OPRED have advised that no Environmental Appraisal for the removal of the obstruction (Vent Stack) is required, however an Environmental Appraisal is being developed for the full Hewett Area Facilities.

The selected option does not require the use of additional assets such as a jack up or lift barge and there will be no emissions or environmental impacts out with current consented activity

5.0 INTERESTED PARTY CONSULTATIONS

Consultations Summary:

As this piece of work being undertaken is of a minor ring-fenced area, this document will be available to OPRED, the OGA & the HSE.

6.0 PROGRAMME MANAGEMENT

6.1 SCHEDULE

Eni propose to carry out the removal of the Vent Stack and associated pipework in June and July 2019. The preparatory works are planned to start in March 2019, to allow this work to go ahead after removing hydrocarbons and making safe the topsides.

Table 6.1 shows the planned schedule for the works described in this Partial Decommissioning Programme.

Table 6.1 - Outline Project Schedule for 48/29B Preparatory Works

Platform 48/29B Preparation Works	2018			2019											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Pre-engineering and Planning															
Cease Production on 48/29B															
Pipeworks prep for flushing topsides & pipeline															
Flush PL84 Pipelines and air-gapping															
Topsides purging and removal of HCs															
Clear wellbay areas, removal flowlines spools															
Well rigless pre-works in preparation for P&A															
Start Vent pipework removal															
Remove Vent Stack															
Prep works for rig interface															
Rig arrival for well P&A															
Well P&A															

Time has been allowed for approval of regulatory documents.

6.2 COSTS

Costings have been provided to OPRED

7.0 PARTNER LETTERS OF SUPPORT

The partners have been kept informed of the progress on the decommissioning plans on a regular basis, and partner letters of support are copied below:

eni uk
Eni House
10 Ebury Bridge Road
London SW1W 8PZ
United Kingdom
Tel: +44 (0) 20 7344 6000

OPRED - BEIS
AB1 Building
Crimson Place
Aberdeen
AB10 1BJ

Ref: DERE2019-008/792971
London, 10 April 2019

Dear Sir/Madam,

RE: Petroleum Act 1998 - Partial Decommissioning Programme (DP) for 29B Vent Stack Removal

We, Eni UK Limited (Registration Number: 00862823), confirm our support of the final proposals detailed in the Partial Decommissioning Programme for 29B Vent Stack removal dated 9 April 2019 insofar 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. This Partial Decommissioning Programme is to cover the removal of the Vent Stack (two vent pipes tied together) in the South West corner of the 48/29B platform.

We also confirm that we authorize Eni Hewett Limited (Registration Number: SC090159) to submit on our behalf such Partial Decommissioning Programme to the Secretary of the State.

Yours faithfully,

Francesca Rinaldi
Managing Director

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Registered Office address
Registered in England & Wales
(Company number 00862823)

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10 Ebury Bridge Road
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Tel: +44 (0) 20 7344 6000
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OPRED - BEIS
AB1 Building
Crimson Place
Aberdeen
AB10 1BJ

Ref: DERE2019-007/782970
London, 10 April 2019

Dear Sir/Madam,

RE: Petroleum Act 1998 - Partial Decommissioning Programme (DP) for 29B Vent Stack Removal

We, Eni LNS Limited (Registration Number: 00970280), confirm our support of the final proposal details in the Partial Decommissioning Programme for 29B Vent Stack removal dated 8 April 2019 insofar 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. This Partial Decommissioning Programme is to cover the removal of the Vent Stack (two vent pipes tied together) in the South West corner of the 48/29B platform.

We also confirm that we authorize Eni Hewett Limited (Registration Number: SC090159) to submit on our behalf such Partial Decommissioning Programme to the Secretary of the State.

Yours faithfully,

Francesca Rinaldi
Director

PERENCO

Perenco UK Limited
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St Andrews Business Park
Norwich
Norfolk
NR7 0HR

Switchboard: 01603 771 000
Central Fax: 01603 771 001

Hewett Decommissioning Team
ENI Hewett Limited
10 Ebury Bridge Road
London
SW1W 8PZ

11th April 2019

Dear Sir/Madam,

Subject: Petroleum Act 1998 – Partial DP for 29B Vent Stack Removal

We, Perenco UK Limited (Registration Number: 04653068), confirm our support of the proposal details in Eni Hewett Limited Partial DP for 29B Vent Stack removal dated 4 January 2019. This Partial Decommissioning Programme is to cover the removal of the Vent Stack (two vent pipes tied together) in the South West corner of the 48/29B platform.

We also authorise Eni Hewett Limited (Registration Number: SC090159) to submit on our behalf the Partial Decommissioning Programme to the Secretary of the State for approval under section 29 of Petroleum Act 1998.

Yours faithfully
For and on behalf of:
Perenco UK Limited

Laurent Combe
SNS General Manager

8.0 SUPPORTING DOCUMENTS

Table 8.1 - Table of Supporting Documents

ID	Description	Document Number
1	Hewett Field Map – Field Location in UKCS	128000PFDG09656
2	Hewett Field Map – Area Overview	102800PFDG09657
3	48/29B Inventory and Mapping of Materials	102800PGRG09001