Our Ref: 01.01.01.01-6373U
UKOP Doc Ref:1368730

Offshore Petroleum Regulator
for Environment & Decommissioning

PERENCO UK LIMITED
8 HANOVER SQUARE
LONDON
W1S 1HQ

Registered No.: 04653066

Date: 4th November 2024

Department for Energy Security &
Net Zero

AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

Tel [redacted]
Fax

www.gov.uk/desnz
opred@energysecurity.gov.uk

Dear Sir / Madam

THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2020
LEMAN [PERENCO][pt. of LEMAN], Leman H Platform [PERENCO], CO2 Injection 49/27

A screening direction for the project detailed in your application, reference DR/2508/0 (Version 3), dated 29th October 2024 has been issued under regulation 6 of the above Regulations. The screening direction notice, and any relevant conditions and comments are attached. A copy of this screening direction will be forwarded to the application consultees, the Oil and Gas Authority and published on the gov.uk website.

If you have any queries in relation to this screening direction or the attachments, please do not hesitate to contact [redacted] on [redacted] or email the Environmental Management Team at opred@energysecurity.gov.uk.

Yours faithfully

Signature Not Verified
Digitally signed by Department for Energy Security and Net Zero
Date: 2024.11.04 16:56:35 GMT
Reason: On behalf of the Secretary of State
Location: Offshore Petroleum Regulator for Environment and Decommissioning

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THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2020

SCREENING DIRECTION CONFIRMING THAT AN ENVIRONMENTAL IMPACT ASSESSMENT IS NOT REQUIRED

LEMAN [PERENCO][pt. of LEMAN], Leman H Platform [PERENCO], CO2 Injection 49/27

DR/2508/0 (Version 3)

Whereas PERENCO UK LIMITED has made an application dated 29th October 2024, under The Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020, and whereas the Secretary of State has considered the application and is satisfied that the project is not likely to have a significant effect on the environment; in exercise of the powers available under regulation 6, the Secretary of State hereby directs that the application for consent in respect of the project need not be accompanied by an Environmental Impact Assessment, provided that the project is carried out as described in the application for the screening direction and in accordance with the conditions specified in the attached schedule.

In giving a screening direction under regulation 6 of the above Regulations, the Secretary of State accordingly gives agreement to the Oil and Gas Authority to the grant of consent for the project as detailed in the application WONS/16854/0/EWT/1 (Version 1).

Effective Date: 4th November 2024

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SCHEDULE OF SCREENING DIRECTION CONDITIONS

The grant of this screening direction is conditional upon the screening direction holder complying with the following conditions.

1 Screening direction validity

The screening direction shall be valid from 5 November 2024 until 31 March 2025.

2 Commencement and completion of the project

The holder of the screening direction must notify the Department for Energy Security & Net Zero (hereinafter called the 'Department') of commencement and completion of the project within two days:

a) of commencement of the project and

b) of completion of the project.

Notification should be sent by email to the Environmental Management Team Mailbox: opred@energysecurity.gov.uk

3 Prevention of pollution

The holder of the screening direction must ensure that appropriate measures are taken to minimise discharges, emissions and waste, in particular through the appropriate use of technology; and to ensure that necessary measures are taken to prevent incidents affecting the environment or, where they occur, to limit their consequences in relation to the environment.

4 Inspections

Should the Department consider it necessary or expedient for an inspector appointed by the Secretary of State to investigate whether the conditions of the screening direction are being complied with, the holder of the screening direction shall afford the inspector with such facilities and assistance as the inspector considers necessary to exercise the powers conferred by the regulations. The holder of the screening direction shall additionally ensure that copies (electronic or paper) of the screening direction and any other relevant documents are available for inspection by the inspector at:

a) the premises of the holder of the screening direction; and
b) the facilities undertaking the project covered by the screening direction.

5 Check monitoring

Should the Department consider it necessary or expedient to undertake an independent monitoring programme to assess the impact of the project covered by the screening direction, the screening direction holder shall afford the Department with such facilities and assistance as the Department considers necessary to undertake the work.

6 Atmospheric emissions returns

Following completion of the project covered by the screening direction, the holder of the screening direction shall report all relevant atmospheric emissions, such as combustion emissions, extended well test emissions or flaring and venting emissions relating to a well test, using the appropriate Environmental Emissions Monitoring System (EEMS) reporting forms. In the case of atmospheric emissions relating to drilling projects undertaken from a fixed installation, they should be included in the annual EEMS reporting forms for the fixed installation.

7 Unauthorised deposits

Following completion of the project covered by the screening direction, the holder of the screening direction shall recover any materials accidentally or temporarily deposited on the seabed, such as debris, temporary containers, structures or deposits, or scientific instruments, and shall return the materials to land. If it is not possible to recover any of these deposits, full details of the materials remaining on the seabed must be reported to the Department in accordance with the requirements of Petroleum Operations Notice No.2 (PON2).

8 Screening direction variation

In the event that the holder of the screening direction proposes changes to any of the particulars detailed in the application for a screening direction, the holder must notify the Department immediately and submit an application for a post screening direction amendment. The post screening direction must be in place prior to the amended proposals taking effect.

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COMMENTS ON THE APPLICATION FOR SCREENING DIRECTION

Section 1

The attention of screening direction holders is drawn to the following provisions regarding The Offshore Oil and Gas Exploration, Production, Unloading and Storage (Environmental Impact Assessment) Regulations 2020.

1) You are deemed to have satisfied yourself that there are no barriers, legal or otherwise, to the carrying out of the project covered by the screening direction. The issue of a screening direction does not absolve the screening direction holder from obtaining such authorisations, consents etc that may be required under any other legislation.

2) The Department would draw your attention to the following comments:

N/A

3) All communications relating to the screening direction should be addressed to:

opred@energysecurity.gov.uk

or

Offshore Petroleum Regulator for Environment & Decommissioning
Department for Energy Security & Net Zero
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

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SCHEDULE OF SCREENING DIRECTION DECISION REASONS

The Secretary of State has decided that, based on the information provided, the project is not likely to have a significant effect on the environment. The main reasons for this decision are:

1) Decision reasons

The following provides a summary of the assessment undertaken to determine whether an Environmental Impact Assessment is required for this project, summarises the information considered, the potential impacts and sets out the main reasons for the decision made. In considering whether an Environmental Impact Assessment is required or not, the following have been taken into account:

a) the information provided by the developer;

b) the matters listed in Schedule 5 of The Offshore Oil and Gas Exploration,

Production, Unloading and Storage (Environmental Impact Regulations 2020) (the

Regulations);

c) the results of any preliminary verifications or assessments of the effects on the

environment of the project; and

d) any conditions that the Secretary of State may attach to the agreement to the

grant of consent.

Having regard, in particular, to the matters identified at paragraphs 1(a) to (g) of Schedule 5 to the Regulations, the characteristics of the project include the following:-

Summary of Project

The project is a Carbon Dioxide (CO2) injection trial in the Southern North Sea (SNS), whereby CO2 is injected into the depleted Leman gas reservoir with the intention of monitoring its movement and behaviour in the reservoir. The injection trial will occur between November 2024 and March 2025.

Description of the project

Perenco UK Ltd (PUK) have been granted 3 Carbon Storage Licences from the NSTA (CS009, CS017 & CS018), which have objectives to test and demonstrate that former gas fields, that have ceased production, can be converted into safe carbon storage sinks for CO2 from industrial emitters.

The project is an injection trial and fulfils part of the Carbon Storage Licence objectives by studying and testing several properties of CO2 injectivity. For example, the project is investigating how the CO2 migrates through the reservoir and how any change in the state/phase of CO2 as it reaches the reservoir, effects its movement and injectivity. A trial of this size and scope in a depleted gas reservoir is novel and has never been undertaken before in the UKCS. Upon successful CO2 injection testing, the goal would be to re-use existing infrastructure and hydrocarbon fields for large scale CO2 storage. This would be subject to further applications,and is not assessed in this application.

The trial will be undertaken from the normally unmanned Leman 27H platform, in the Leman field which has ceased hydrocarbon production activities. The wells have been specifically reworked in a previous campaign to prepare them and make them suitable for CO2 injection. The trial will consist of the following activities:

The ERDA jack up barge will be located alongside the 27H platform and will host much of the planned activity, equipment and CO2 storage tanks.

At any one time, up to 456 tonnes of CO2 will be stored in 24 ISO storage tanks on the ERDA. This CO2 will be injected down the 49/27-H1 well (49/27-H2 is a contingency back-up well).

The subsurface behaviour of the injected CO2 will be monitored by a wide assortment of advanced sensors including seismic survey equipment. These seismic surveys will use vessel-based airgun sources with an array of receiving sensors positioned in the water column, downhole and on the seabed.

The trial will involve a number of discrete CO2 injection tests each requiring the injection of a prescribed quantity of CO2.

There will be 13 batches of CO2 injected with a total injection quantity of 5145 tonnes of CO2. The temperature, phase of the CO2 i.e. whether it is gas, super-critical fluid or liquid, and the target perforations will vary between injection batches

The total injection time (across all batches) is expected to be <137 hours. There is a contingency that if liquid CO2 injection is not possible then the injection of gas phase CO2 will be undertaken, which will take 297 hours of injection.

The injected CO2 will remain within the reservoir permanently.

There will be some small-scale controlled release of CO2 to atmosphere through general operation of the injection equipment e.g. through the purging of pipes and valves. In total, the various planned releases will amount to 249 tonnes of CO2 to atmosphere

Liquid CO2 will be transported to the ERDA from the Netherlands via supply vessel and pumped on board. There will be 12 return trips between the ERDA and

Netherlands to supply the CO2.

Location of the project

Having regard, in particular, to the matters identified at paragraphs 2(a) to (c) of Schedule 5 to the Regulations, the environmental sensitivity of geographical areas likely to be affected by the project has been considered as follows:-

The Leman 27H platform is in the Southern North Sea (SNS) in block 49/27 which is approximately 46 kilometres (km) east of the UK coastline and approximately 61 km west of the Netherlands/UK median line. Water depths in the trial area range from 34 to 46m. Seabed sediments in the deposit locations are a variable mixture of circalittoral sands (EUNIS MD5&MC5), circalittoral mixed sediments and circalittoral coarse sediments (MD3). Fauna is typical of mobile sands including polychaetes such as N. cirrosa, isopods (Eurydice pulchra), hermit crabs (Pagurus bernhardus),

swimming crab (Liocarcinus depurator), common shore crab (Carcinus maenas) and the starfish(Asterias rubens). The seabed is characterised by highly mobile sandy sediments in a tide swept dynamic environment. The powerful hydrodynamic regime in the area creates a complex landscape of sandbanks, sand waves and changing seabed depths.

The tide predominantly flows in a south easterly direction with residual current flow to the east, modelling shows the tidal flow to be 0.66 metres per second (ms-1) and 0.12 ms-1 for spring and neap peak flows respectively. The annual mean significant wave height in the vicinity of Leman 27H ranges from 1.51 m to 1.80 m and dominant wind directions between the south west and north west.

Leman 27H is in two marine protected areas, these are the:

Southern North Sea Special Area of Conservation (SAC) which is designated for the protection of harbour porpoise, and the North Norfolk Sandbanks and Saturn Reef (NNSBSR) SAC which is designated for the protection of subtidal sandbanks and reef which occurs in the form of biogenic sabellaria spinulosa aggregations.

Multibeam Survey footage around 27H shows mobile sediments as indicated by ripple features and scour depressions. This habitat is part of the Annex 1 subtidal sandbank feature of the NNSBSR SACs. There is no indication of Sabellaria reef at the platform meaning there is no overlap between the project and the Annex 1 reef SAC feature.

A wide range of seabird species utilise the area with the species composition and numbers varying throughout the year, with the more common species in the breeding season being kittiwake and guillemot, whilst in winter it is guillemot, fulmar and razorbill. Seabird vulnerability to oiling varies from low sensitivity to high sensitivity through the injection trial depending on month and species.

The project area is important to a variety of fish species with the area acting as a

nursery and spawning ground for several species such as cod, herring, nephrops, plaice and sole. Plaice is known to spawn at high intensities in the region.

Cetacean abundance in the SNS is relatively low compared to the northern and central North Sea, with the exception being harbour porpoise and white beaked dolphin which are the most common species. Harbour porpoise has been observed in relatively high densities in the operational area which is supported by its designation as an SAC for this species. With regard to pinnipeds, both grey and harbour seal may be present in the vicinity of the project

There is a considerable amount of human activity in vicinity of the 27H platform. The platform and the seismic survey area is located in ICES Rectangles 34F2 and 35F2 which are primarily targeted by demersal shellfish trawling with some pelagic trawling. The total landings in 2022 from the two blocks amounted to £ 707,751 for context in 2022, UK vessels landed a value of £1.04 billion. Shipping levels are considered high with large numbers of cargo vessels and ferries between the UK and continental Europe traversing the block with offshore support vessel activity also being high. There is a considerable amount of oil and gas activity in the area as other parts of the Leman field remain active as a highly productive gas field. There are a number of export and infield pipelines operated by Perenco and other operators in close proximity to 27H such as the PL206 pipeline which connects 27H to Leman 27A.

The nearest operational windfarm is Dudgeon located approximately 58 km northwest of the 27H platform. The Norfolk Vanguard West windfarm is 9.9km south east of 27H and is in the consented phase, but yet to be constructed. There are no military ranges or restrictions at 27H.

There are a large number of wrecks in the region of the works but none within 500m of the project area, with the closest being 1.8km NW of 27H. The works are within Carbon Storage license areas CS009 (Exploration Operator: PUK) and do not overlap with any aggregate extraction site or electricity cables.

Given the location of the project, the areas identified at paragraphs 2(c)(i), (iii), (iv), (vi), (vii) and (viii) of Schedule 5 are not likely to be affected by the project.

Type and characteristics of the potential impact

In accordance with paragraph 3 of Schedule 5 to the Regulations, the likely significant effects of the project on the environment have been considered. Potential effects on the environment from the activities associated with the project were assessed, including impacts arising from atmospheric emissions, seabed disturbance, physical presence, planned discharges and accidental spills. Other than the matters considered further below, there is not likely to be any significant impact of the project on population and human health.

The 27H platform was installed in 1984 and includes a 500m safety zone excluding unauthorised vessel traffic from entering. Consequently, its presence has been an

established navigational feature in the SNS for decades and vessel traffic routinely avoids the area. The ERDA jack up will be located immediately adjacent to the platform and thus within the 500m safety zone. During operations there will be safety vessels and supply vessels in attendance with the ERDA and these will often be located outside the 500m zone. Therefore, whilst the project will result in some temporary additional physical presence in the area there will not be a significant effect on other sea users or vessel traffic.

There will be a small amount of seabed disturbance due to the placement of the ERDA's spud cans/jack up legs on the seabed whilst it is located alongside 27H. Some further disturbance will also be caused by the placement of seismic sensors (MicrOBS) on the seabed surrounding area 27H. In total, this disturbance amounts to 0.0033km2 of seabed that is characterised by a sandy substratum which is exposed to a naturally high level of disturbance due to strong currents and high levels of sediment transport. The disturbance will not permanently alter the seabed conditions and there is expected to be a full recovery of seabed biota and its supporting habitat. The area of seabed disturbance represents a minute portion of the Southern North Sea SAC and North Norfolk Sandbanks and Saturn Reef SAC i.e. <0.0000001% of each, and will not have a significant impact on any conservation objective.

Fish, sea birds and marine mammals (which may be PMFs, Annex II species and EPSs) are not considered to be significantly impacted as there are few pressures which could directly or indirectly affect them. Specifically, there is no impulsive noise and operational noise levels will be below thresholds for significant disturbance and injury.

The main risk of accidental release of hydrocarbons is the loss of diesel inventory from a vessel. The assessment showed that the probability of a diesel spill from a vessel involved in the project is very low, with numerous mitigation measures and procedures in place. Therefore, the risk of an oil spill event that could have a significant impact on the environment is minimal.

Due to the large quantities of CO2 being stored, injected and transported between vessels, the risk an accidental release of CO2 has been assessed. Such a release would represent a significant safety risk to people working on the installation, and as a result, rigorous measures will be in place to avoid and mitigate the possibility of any uncontrolled CO2 release, meaning the risk to the environment from this mechanism is not considered significant. There will be a small amount of controlled venting of CO2 from the operation of the injection, storage and transfer equipment, and this venting will emit 249 tonnes of CO2 to the atmosphere.

The proposed operation is planned to utilise a number of vessels and helicopter transfers, and the subsequent atmospheric emissions from the fuel used for these operations has been calculated. The vessels involved in the project will comprise the ERDA (Jack Up Barge), 3 tugs/Anchor Handling Vessels, an Emergency Response and Recovery Vessel, a general supply vessel, a specially equipped vessel for CO2 transport and a seismic survey vessel. The total atmospheric greenhouse emissions from the project (venting and fuel usage) will be 8006 tonnes of carbon dioxide

equivalent (CO2(e)). Whilst all emissions of greenhouse gas can affect the climate, this contribution is not significant, for example this project accounts for 0.05599% of the total offshore oil and gas UKCS CO2 emissions (using 2022 as a baseline). The emissions from fuel combustion may result in a deterioration of the local air quality, but due to the relatively short duration of the work and the exposed conditions in the area, emissions will rapidly disperse, and it is not anticipated that there will be a significant impact.

There will be a discharge to sea of chemicals used in support of the injection trial. These chemicals are of a relatively low toxicity and their use and discharge will be controlled by a chemical permit issued by the Department, which ensures that any risk to the marine environment is low.

Whilst a number of other activities are occurring in the surrounding offshore area, the minor and small-scale nature of the environmental effects associated with the injection trial mean they will not act cumulatively with any other project to an extent that could result in a significant impact on any environmental receptor.

The operations are in accordance with the English East and Offshore East Marine Plan.

2) Mitigation of significant effects

The following are features of the project or measures envisaged that the developer has proposed to avoid or prevent what might otherwise have been significant adverse effects on the environment:

N/A