

Our Ref: 01.01.01.01-5473U  
UKOP Doc Ref:1263353



Offshore Petroleum Regulator  
for Environment & Decommissioning

ITHACA ENERGY (UK) LIMITED  
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Registered No.: SC272009

Date: 27th February 2023

Department for Business, Energy  
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Crimon Place  
Aberdeen  
AB10 1BJ

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Fax

[www.gov.uk/beis](http://www.gov.uk/beis)  
[bst@beis.gov.uk](mailto:bst@beis.gov.uk)

Dear Sir / Madam

**THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING  
AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS  
2020  
CAPTAIN, COSLPioneer DRILLING INJECTOR WELL 13/22a-EUB04I planned  
well**

A screening direction for the project detailed in your application, reference DR/2339/0 (Version 2), dated 22nd February 2023 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 [bst@beis.gov.uk](mailto:bst@beis.gov.uk).

Yours faithfully



**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**

**CAPTAIN, COSLPioneer DRILLING INJECTOR WELL 13/22a-EUB04I planned  
well**

**DR/2339/0 (Version 2)**

Whereas ITHACA ENERGY (UK) LIMITED has made an application dated 22nd February 2023, 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/15047/0/IDA/1.

Effective Date: 27th February 2023



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

### **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 28 February 2023 until 31 December 2023.

#### **2 Commencement and completion of the project**

The holder of the screening direction must notify the Department for Business, Energy & Industrial Strategy (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: [bst@beis.gov.uk](mailto:bst@beis.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:

The Department has no comments

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

bst@beis.gov.uk

or

Offshore Petroleum Regulator for Environment & Decommissioning  
Department for Business, Energy & Industrial Strategy  
AB1 Building  
Crimon Place  
Aberdeen  
AB10 1BJ

Tel [REDACTED]  
Fax



## **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 assessments undertaken by OPRED 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.

### **Characteristics of the Project**

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:

Drilling of a new polymer injection (PI) well (EUB04i), which will be drilled at the new Captain Drill Centre E (area E). Area E will contain 3 new polymer injection wells, which will tie back to Captain Wellhead Protection Platform A (WPP'A').

A new 500m exclusion zone will be established around the new Captain Drill Centre E.

The well will be drilled by a mobile drilling unit (MoDU), the COSL Pioneer, which will have a 500m exclusion established during drilling.

The well will be batch drilled with the other 2 polymer injection wells at Area E, which is an efficient method of drilling, reducing the riser disconnections, changing out of mud formulas and time drilling the wells.



The EUB04i well be drilled in 4 sections using Water Based Mud (WBM), with a discharge of cuttings and mud to the environment. A riserless mud recovery system will be used to drill the 17 " hole with WBM to provide wellbore stability.

A contingency sidetrack (8 " section) has been included to represent the worst assessment case.

There will be no vertical seismic profiling or extended well tests carried out on the well.

## **Description of the Project**

The Captain development began production with the field tied back to a Floating, Production, Storage and Offloading Vessel (FPSO). There were 2 subsequent topside developments - a Bridge Linked platform which serves Area B and C drilling centres, and a Wellhead Protection Platform (WPP'A') which is a self-contained drilling rig position above Area A drill centre. Crude oil is exported from the FPSO via a shuttle tanker, and gas is exported and imported via the Frigg pipeline. To enhance oil recovery, Ithaca has developed the Captain Enhanced Oil Recovery (EOR) Project which has been ongoing for some time. Stage 2 Phase II of the project is proposed, which involves the drilling of 6 polymer injection wells (3 at new drill centre E, and 3 at new drill centre D), and a new production well (at existing drill centre B). New subsea infrastructure will be laid, and there have been ongoing modifications to the Captain topside. Polymer will be injected into wells, that will sweep the remaining oil left in the field. The polymer has a higher viscosity than oil, and therefore provides a higher oil recovery than using water.

Well EUB04i will be drilled from the COSL Pioneer with WBM, which will be discharged to sea along with the mud and drill cuttings. One contingency sidetrack has been included for the well to allow for a worst-case drilling scenario to be assessed. The well will be drilled within a newly established 500m safety zone for the COSL Pioneer which will remain around the new Captain Drill Centre E once drilling has been completed. Operations are expected to last a total of 176 days for batch drilling all 3 PI wells, with well EUB04i operations lasting approx. 67 days (including rig mobilisation). The proposed project area is within a well-developed area of the Central North Sea and cumulative impacts from drilling discharges, atmospheric release and oil and chemical releases have been assessed.

It has been concluded that there will be no cumulative impacts expected to occur with this project due to the selection of low bioaccumulation water-based muds, the proposed mitigation and the short duration of the project.

It is not considered to be likely that the project will be affected by natural disasters and the risk of a major accident such as a well blowout has been assessed. The Developer has control measures in place to reduce the risk of a major accident occurring and the probability of such an event occurring is very low.

Other than the matters considered further below, there is not likely to be any significant impact from the project on population and human health.





## 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 Captain field is located in the Outer Moray Firth area, approximately 191 km from the UK/Norwegian median line and 91 km north of Aberdeen. Survey data shows the area to be indicative of a homogenous sediment mainly made up of sandy mud/muddy sand, which is classified as 'deep circalittoral mud'. Small, localised areas comprising sandy mud were also observed, with pebbles, cobbles and boulders, and are representative of 'deep circalittoral mixed sediments'.

Seabed scars were observed within the area, and are thought to be the result of trawl scars.

Water depths across the area range from 96.5m in the west to 124.1m in the east of the area. Water depth at the proposed drilling location is 110m and the average wave height is 1.9m.

A survey of the area showed that epibenthic fauna was relatively sparse. The dominant epifauna were sea pens, with other species observed including Norway Lobster, starfish, brittle stars, polychaetes and gastropods. Sea pens were observed over the majority of the survey area, with densities ranging from occasional to frequent using the SACFOR scale, and burrow densities ranging from common to abundant. A SACFOR assessment concluded that the Captain area would be considered to represent the OSPAR habitat 'Sea pens and burrowing megafauna communities'. There was no evidence of ocean quahog in stills or video footage, however grab samples taken had evidence of ocean quahog shells.

Observations of areas of sandy mud interspersed with boulders and cobbles are indicative of 'stony reefs' and it was concluded that the area represents an unstable stony reef. No other Annex I habitats were observed.

Minke whale, long finned pilot whale, killer whale, bottlenose dolphin, white beaked dolphin, Atlantic white-sided dolphin and harbour porpoise have all been recorded in the vicinity of the Captain area. Densities of the species are categorised as low to moderate, with the exception of the white beaked dolphin which is high in August and December, and the harbour porpoise which is high in July. Grey and harbour seals may be encountered, and density maps show the presence of grey seals in the area of the Captain field as 5-10 individuals per 5km<sup>2</sup> respectively. It is unlikely that harbour seals are unlikely to frequent the area.

The Captain area is not situated within any conservation areas, with the nearest area of conservation interest being the Southern Trench NCMPA which lies 45km to the south. This site is designated due to a variety of biodiversity and geological features including burrowed mud, sub-glacial tunnels and minke whale.



The Captain field lies within fishing designated ICES rectangle 45E8 and the proposed operations will coincide with fish spawning and/or nursery activity for a number of species. Fishing effort in the area is designated as of moderate importance, with demersal fishing dominating the species type. Fishing in the area accounted for 0.39% of the total UK value, and 0.25% of the total live weight landed for 2021. It is not anticipated that the drilling of well EUB04i will have a significant impact on the fishing industry in the area.

Seabird oil sensitivity in the vicinity of the Captain field is extremely high in February and December and from April - June, is low to medium in the summer months and increases to medium sensitivity to high sensitivity towards the end of the year.

There are numerous wrecks within block 13/22, and the closest wreck to the proposed drilling location is 330m to the west of the well. There are no offshore wind farms within 40km of the field. The nearest sectoral Marine Plan for offshore wind energy is NE6, which is 12km from the proposed well area. There are no telecommunication cables within 40km of the Captain field, and there are no aquaculture sites or shellfish protected areas within the vicinity of the project area. The closest CCS site is the Pale Blue Dot site, with the storage licence area extending to 11km east of the proposed well location. There are no military restrictions within the block, and the nearest MoD practice and exercise area is located 11 km to the west of the well location. The closest oil and gas installation is the Bleo Holm FPSO which is 27km to the southeast of the proposed location. It is not anticipated that the proposed project will have a significant impact on either the wrecks, offshore wind area or the CCS project.

Given the location of the project, it is not likely that the areas identified at paragraphs 2(c)(i), (iii), (iv), (vi), (vii) of Schedule 5 to the Regulations will be affected by the change to 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 change to 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 from the change to the project on population and human health.

The MoDU will be sited at the drilling location and a new 500m exclusion zone will be established which excludes unauthorised access of vessels and prohibits access to fishing vessels. This will remain in place for the Area E Drill Centre when the MoDU has completed drilling all 3 wells. The MoDU mooring anchors will extend beyond this 500m zone, and a dedicated Emergency Response Rescue Vessel (ERRV) will be in location to support the MoDU and warn other users of the sea of the presence of the mooring anchors. Fishing activities within the area are moderate, and shipping



density is considered to be low. No additional impacts to other marine users are identified as part of the drilling of well EUB04i. Therefore, there are no significant effects likely in terms of physical presence from the proposed project.

Cuttings from the WBM sections will be discharged at the seabed and into the water column. Cuttings dispersion modelling was undertaken for the cumulative effect of all 3 wells to be drilled at Area E as part of the Captain EOR Stage 2 Phase II project. The modelling assessment concluded that the cumulative effect of drilling all 3 wells shows a cuttings pile thickness of > 6.5mm occurring within 15 -180m from the well, covering an area of 0.019km<sup>2</sup>. This reduces to an area of 0.0087km<sup>2</sup> after 10 years. Where burial thickness is > 5cm, this thickness is limited to within 50m of the well.

Seabed disturbance from the discharge of WBM drill cuttings could result in the smothering and mortality of benthic fauna which will result in some short-term temporary impacts. Burrowed mud habitats are also used by the Norway Lobster, which are considered likely to spawn within the vicinity of the well. It has however been shown that the Norway Lobster are tolerant to smothering of up to 5cm. Burrowed mud habitats show a medium sensitivity to smothering, however studies have shown that species of sea pen can re-anchor themselves when dislodged. Ocean quahog have a short inhalant siphon which can become blocked with suspended sediment. Studies have shown that sediment depths of up to 30cm is unlikely to have an impact on ocean quahog as they can burrow to the surface. Modelling showed that burial depth >5cm extends to 50m from the well, and higher burial depths (>20cm) extend to 10m from the well. There is the potential for mortality of individual ocean quahog if present in the area, and the potential to effect sea pens and burrowing megafauna. However, given the very small area of impact and the discharge of the WBM to the water column, the widespread distribution, short life spans and high reproductive rates of the sensitive species in the area, it is not expected to affect the population levels across the North sea and it is expected that the benthic communities will regenerate in the area over time.

Further seabed disturbance will occur from the MoDU anchors and anchor lines, and the installation of the wellhead and xmas tree. The area of permanent seabed disturbance which includes the drill cuttings pile is 0.0089 km<sup>2</sup>, whilst temporary disturbance (which also includes the drill cuttings pile) is 0.04km<sup>2</sup>. There will be mortality of some individual species, as discussed above, but the impact on populations levels across the North Sea is unlikely to be significant.

Noise generated from the project activities will not be significant, and it is concluded that the project is not expected to have a likely significant effect on the site in relation to harbour porpoise and the supporting habitats and prey.

There are no expected transboundary effects from the proposal to drill EUB04i well. The nearest boundary (UK/Norwegian median) is located approximately 191 km from the proposed well location. It is not considered likely that any planned operational discharge (cuttings and chemicals) will be detectable at this distance from the well location.



The well to be drilled is a polymer injection well, and an assessment has been included within the project proposal to assess as a worst case, an uncontrolled well blow out from the Captain field, and the subsequent potential for a Major Environmental Incident (MEI). The assessment concluded that there is a potential for an MEI to occur, however the risk of an oil spill event as a result of a well blow out from well EUB04i is minimal, and the developer has suitable mitigation in place to prevent such an occurrence.

The proposed operation will utilise 3 anchor handling vessels, an emergency rescue and response vessel (ERRV), supply vessels, and 5 flights per week to/from the drilling rig for personnel. Atmospheric emissions have been assessed from the diesel used for each vessel (including the drilling rig itself) and the time spent on location. The total atmospheric emissions (asCO<sub>2</sub>(e)), from the vessels undertaking the project work is approx. 9000 tonnes and accounts for 0.062% of the total UKCS CO<sub>2</sub>(e) emissions (using 2018 as a baseline). COSL Drilling Europe who operate the COSL Pioneer, have set a target to provide climate neutral drilling by 2025, and the MoDU utilises energy control systems to monitor the consumption of fuel to reduce CO<sub>2</sub> and NO<sub>x</sub> emissions. The company maintains compliance for ISO systems for environmental and energy management. The developer has a set a target for their assets to reduce CO<sub>2</sub>(e) emissions by 25% of 2019 levels by 2025 and is committed to the North Sea Transition Deal targets. The emissions may result in a short-term deterioration of the local air quality, but due to the relatively short duration of the work, and that the exposed conditions in the area will rapidly disperse the emissions, it is not anticipated that there will be a significant impact.

## **2) Decision**

Taking the above considerations into account, the Secretary of State has concluded that the project is not likely to have a significant impact on the environment and that an environmental impact assessment is not required.

## **3) 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