

Our Ref: 01.01.01.01-5325U
UKOP Doc Ref:1268727



Offshore Petroleum Regulator
for Environment & Decommissioning

EQUINOR UK LIMITED
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Registered No.: 01285743

Date: 3rd April 2023

Department for Business, Energy
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Aberdeen
AB10 1BJ

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Dear Sir / Madam

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

**MARINER, Mariner PDQ Platform, DRILLING INJECTOR WELL 9/11a- AHID
planned well**

I refer to your amended application dated 30th March 2023, reference DR/2306/3 (Version 1).

It has been determined that the proposed changes to the project is not likely to result in a significant effect on the environment, and therefore an environmental impact assessment is not required.

A screening direction is therefore issued for the changes to the project. An amended schedule of conditions, comments, and main reasons for the decision on the amended application, 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.

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**

**MARINER, Mariner PDQ Platform, DRILLING INJECTOR WELL 9/11a- AHID
planned well**

DR/2306/3 (Version 1)

Whereas EQUINOR UK LIMITED has made an application dated 30th March 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/14862/0/IDA/1, WONS/15081/0/GS/1 and WONS/15078/0/C/1

Effective Date: 3rd April 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 1 January 2023 until 31 July 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

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 [REDACTED]



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 :

Summary of the change to the project

This post screening direction amendment (PDA) (DR/2306/3) relates to a contingency sidetrack for the project for which screening directions (DR/2306/2, DR/2306/1 and DR/2306/0) were previously issued. AHID well has been designed and will be drilled as a producer well in the first instance with the possibility of being converted into an injector well at a later date.

Summary 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 top-hole, riserless section 34" diameter with a Water-Based Mud (WBM) and 28" conductor will be cemented in place.

Drilling of the 24" surface section and the casing set, this section will be drilled starting with seawater for the top 200 m and then switch to WBM system.

Drilling of the 17.5 " section using low toxicity oil based mud (LTOBM) with cuttings to be treated using Thermo-Mechanical Cuttings Cleaner (TCC).

Cementing of 13 3/8 casing.

Circulating the LTOBM out with water based mud

Drilling of the 8.5 " section using water based mud (WBM)

Circulation of well fluids to clean up and preservation fluids

Completion of upper sections.

Completions of lower sections including installation of formation isolation valve and installation of 13 3/8 " shallow bridge plug to temporarily suspend the well for change from blow out preventor to Xmas tree installation.

Drilling a contingency sidetrack of 8 1/2" section.

Xmas tree installation and upper completion is planned to be executed from the DES Rig on the Mariner PDQ installation.

Description of the Project

The initial screening direction (DR/2306/0) related to the drilling of the top-hole section of the 9/11a-AHID Mariner production well and the cementing of a 28" conductor located at the Mariner A Production Drilling Quarters (PDQ) platform. The top-hole, riserless section (34" diameter) of the well will be drilled with seawater sweeps; a Water Based Mud (WBM). The 34" section length will be 109 m and a 28" conductor will be cemented in place to provide structural integrity. As this section will be drilled riserless and using seawater sweeps, the mud and cuttings discharges will be directly on to the seabed and there will be no re-use of mud between wells on these sections.

The post screening direction amendment (DR/2306/1) included the drilling of a 17.5" section will be undertaken using LTOBM with cuttings returned for treatment using Thermo-Mechanical Cuttings Cleaner (TCC) prior to discharge overboard. The well will be circulated from LTOBM to WBM prior to drilling the 8.5 " section which will be



discharged to sea along with the drill cuttings. Once Mariner AHID is drilled to target depth the well will be circulated with clean up fluids and a liner hanger set approximately 130 m from the 13 3/8 " production casing shoe and a formation isolation valve assembly. The reservoir will be isolated by closing the isolation valve prior to carrying out a casing clean-up run. The well will then be temporarily suspended using a 13 3/8 " shallow bridge plug to allow removal of the Blow Out Preventer (BOP) and installation of the Xmas tree and re-installation of the BOP prior to the well being handed over to production. There is a contingency (under DR/2306/3) to drill a sidetrack to the 8 1/2" section if the original wellbore does not meet specified sand criteria. Drilling is anticipated to take 50 days to complete.

The post screening direction amendment (DR/2306/2) confirmed the well would be a producer well for the first 6 months and upper completion is planned to be executed from the DES Rig on the Mariner PDQ installation.

The well, which will be drilled within the installations' 500m safety zone, is within a well-developed area of the Northern 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 additional cumulative impacts expected to occur from the change proposed to this project.

It is not considered to be likely that the change to 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 change to 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 proposed drilling project is located in the Mariner field in the Northern North Sea, in UKCS Block 9/11, approximately 134 km southeast of the Shetland Isles coastline, and 45 km west of the UK/Norway Median Line, in a depth of 94 metres (m). The seabed in the area of the Mariner A (PDQ) is described as relatively flat.

Sediments in the area are predominantly sand and muddy sand, although the deeper areas within the Fladen Ground consist of mud or sandy mud. Site specific surveys identified the seabed sediments to comprise a veneer, <0.2 m in thickness of 'clayey sand' with occasional shell fragments, but overall dominated by sand sediments. The annual mean significant wave height ranges from 2.41 to 2.7 m.

Benthic surveys found that the area was dominated by species which prefer fine



sands such as polychaetes. Surveys also observed dense populations of sea urchin Echinoidea/Spatangoida. Dominant fauna also included sea urchins Gracilechinus acutus, star fish Asterias rubens, Hippasteria phrygiana and Astropecten irregularis and hermit crabs Paguridae. Faunal burrows, tubes and tracks were visible on the sediment surface; however, these were small, and no burrowing megafauna were observed. Sessile fauna was also observed such as anemones Actiniaria, common whelk Buccinum undatum and turf forming genera such as Hydrozoans and Bryozoans. There was evidence of ocean quahog Arctica islandica (OSPAR threatened and/or declining habitats and species and Scottish Priority Marine Feature (PMF)) in the vicinity of the Mariner field and additionally, one sea pen, Virgularia mirabilis was observed along with faunal burrows, however not at a density sufficient to constitute the OPPAR habitat 'Sea pens and burrowing megafauna communities'.

No Annex I habitats have been recorded within the area. There are no protected sites within 40km of the Mariner field. The project is within the Scottish National Marine Plan (NMP) area.

Five species of cetaceans have been spotted in the waters around the Mariner field: Atlantic white-sided dolphin, harbour porpoise, killer whale, minke whale, and white-beaked dolphin. Grey and harbour seals may be encountered in the area; however, are not expected to be found in significant densities.

Seabird vulnerability in the vicinity of the Mariner field is medium in May and low throughout the year, with no data being available for April and October - December.

The proposed operations will coincide with fish spawning and/or nursery activity for the following species: anglerfish, blue whiting, cod, european hake, haddock, herring, ling, mackerel, Norway lobster, Norway pout, saithe, sandeel and whiting.

The project area is primarily used for demersal fishing and the fishing effort in the area is rated low.

There are several oil and gas fields nearby. The nearest marine cable is connected to the Mariner PDQ with another located approximately 1.5 km away. There are no nearby Military of Defence practice areas. There are no operational renewable energy sites, nor any under construction in the vicinity. Shipping density in the area is very low. There are no protected wrecks or sites, or objects of archaeological importance identified in the area. There are no shellfish water pr protected areas or active shellfish sites located within 40 km of the Mariner field.

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 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.

There is a 500 m radius safety zone around the Mariner A PDQ, excluding unauthorised access of vessels and prohibiting access to fishing vessels.

During the drilling of the top-hole section, WBM cuttings will be discharged to the water column, the bottom-hole sections will be drilled using a combination of LTOBM and WBM. The cuttings from LTOBM will be treated using Thermo-Mechanical Cuttings Cleaner (TCC) prior to discharge. TCC uses the thermal phase separation principle to remove oil and water from LTOBM contaminated cuttings prior to discharge of the treated powder mixed with water.

Given sediment movement and a residual current speed in the vicinity of the Mariner area of approximately 0.25 m/s, it is expected that over time that seabed sediments should recover. WBM are water-soluble and are expected to dissolve, dissociate and disperse during settlement through the water column. The discharge of powder cuttings from LTOBM is expected to form a fine layer within the 500 meter zone however it is not anticipated that this will have a significant environmental effect as it will degrade over time. The chemical risk assessment for the discharge of the mud additives concluded that discharge of the WBM and treated LTOBM cuttings is not considered to present a significant impact on the environment. In addition, it is anticipated that most of the cementing material will remain downhole, with discharge to the environment only occurring when the conductor is cemented back to the seabed and when the cement unit is cleaned at the end of the cementing operation. A small area of the seabed will be impacted when cementing the conductor back to the seabed, however, this is very small in comparison to the surrounding available seabed and therefore the impact is considered not to be significant.

There is evidence of ocean quahog in the vicinity of the Mariner field, however, this species is not expected to be significantly impacted at a population level by the proposed operations. Additionally, one sea pen was observed, however at an insufficient abundance to constitute the OSPAR habitat 'Sea pens and burrowing megafauna communities.' No Annex I habitats have been recorded within the area. Therefore, there are not likely to be any significant effects.

Although Norway lobster and sandeels are benthic spawners, only sandeels are likely to be present within the vicinity of the operations. Although individual sandeels are likely to be impacted by smothering from the discharge of WBM drill cuttings, treated LTOBM cuttings and cement, sandeels are unlikely to be impacted at a population level.

There are no expected transboundary effects from the planned drilling operations at the Mariner A PDQ. The nearest boundary (UK/Norway Median Line) is located



approximately 18 km north west of the operations. It is considered unlikely that any planned operational discharge (chemicals) will be detectable at this distance from the well location.

The main risk associated with the drilling of the proposed Mariner well are from diesel during bunkering operations or as a worst-case scenario a large spill of Mariner crude oil could occur to loss of well control. The well blow out was modelled at 1,600 m³ per day of crude declining to 919 m³ per day (892 tonnes per day) over 76 days, followed by a further 20 days surface oil tracking. The modelling showed that Mariner had the potential to result in an major environmental incident (MEI) on protected sites, water column and sediments. In order to mitigate two well barriers are maintained at all times during the drilling operations. There is a approved Oil Pollution Emergency Plan (OPEP) in place for the Mariner Field to cover drilling operations.

In the case of an accidental diesel release from the Mariner A PDQ, it is expected to evaporate quickly due to its very high level of light ends. The low asphaltene content prevents emulsification, therefore reducing its persistence in the marine environment. As such, a diesel release is not expected to present a significant risk.

Atmospheric emissions associated with the project will result from power demand for the proposed operations. It is expected the emissions will be rapidly dispersed and are not likely to have a significant impact.

Drilling operations will be conducted from the existing Mariner A PDQ Installation such that there is no increase in the infrastructure footprint. The drilling operations are in accordance with the National Marine Plan for Scotland's objectives and policies. It is considered that the drilling of the 9/11a-AHID Mariner well is not likely to have a significant impact on other offshore activities or other users of the sea and limited cumulative impacts are expected to occur.

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