

Our Ref: 01.01.01.01-4625U
UKOP Doc Ref:1155852



Offshore Petroleum Regulator
for Environment & Decommissioning

SHELL U.K. LIMITED
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Registered No.: 00140141

Date: 24th August 2021

Department for Business, Energy
& Industrial Strategy

AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

Tel [REDACTED]

Fax

www.gov.uk/beis
bst@beis.gov.uk

Dear Sir / Madam

**THE OFFSHORE OIL AND GAS EXPLORATION, PRODUCTION, UNLOADING
AND STORAGE (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS
2020
DRILLING THE JAWS EXPLORATION WELL, USING THE VALARIS 122
DRILLING RIG: WELL 22/12d- 22/12d-M planned well**

A screening direction for the project detailed in your application, reference DR/2108/0 (Version 1), dated 14th April 2021 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.

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**

**DRILLING THE JAWS EXPLORATION WELL, USING THE VALARIS 122
DRILLING RIG: WELL 22/12d- 22/12d-M planned well**

DR/2108/0 (Version 1)

Whereas SHELL U.K. LIMITED has made an application dated 14th April 2021, 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 his agreement to the Oil and Gas Authority to the grant of consent for the project as detailed in the application.

Effective Date: 24th August 2021



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 24 August 2021 until 31 March 2022.

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:

No comments.

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

Out-of-hours emergency screening direction variations:

Telephone Met Office out-of-hours service (0330 135 0010) and ask to be connected to the Department's On-call Response Officer (Offshore Environmental Inspectorate).

Routine communications

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:-

Summary of the Project

- Drilling of a HP/HT exploration well (consisting of 36, 26, 17.5, 12.25, 8.5 inch sections);
- Completion of well;
- Well clean-up (12 hr flow) & test (24hr flow);
- Contingent side-track option (mechanical or geological on any of the 17.5, 12.25, and 8.5 inch sections but not more than two of the sections in total);
- Contingent re-spud option (36 & 26 inch sections only); and
- Plug and abandonment of well.

Description of the Project

The drilling of the High Pressure / High Temperature (HP/HT) well will be facilitated by the jack-up drill rig Valaris 122 and may take up to 145 days to complete. The project will be supported by three tugboats, a supply vessel, an emergency support vessel and helicopter trips. The well will be fully abandoned on completion of the drilling. The well will be drilled in five sections, using water-based mud (WBM) to drill



the first two shallow sections and low toxicity oil-based mud (LTOBM) for the remaining 3 deeper sections. The WBM sections will be discharged to the seabed with the oil-based mud being contained and shipped to shore for treatment and disposal. The well will be cleaned-up and subsequently tested to acquire hydrocarbon field data. Non-routine flaring of hydrocarbons is proposed during clean-up and testing of the well as no pipeline infrastructure exists to produce the fluids back to a processing facility. Drilling is planned to begin in 2021, and the screening direction covers the period August 2021 to March 2022.

No cumulative impacts are expected to occur with any other existing or approved projects. The risk of a major accidents and environmental effects from major accidents, 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.

There is not likely to be any significant impact of the project on population and human health. It is not considered likely that the project will be affected by natural disasters. No pollution or nuisances are foreseen from the project. There is one synthetic oil in water and a reservoir oil in water waste streams resulting from the project which will be treated and analysed before discharge. Where specification for discharge can't be met, the waste will be returned to shore for treatment and disposal.

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 project is in an offshore oil and gas licenced area, approximately 188 km east from the Aberdeenshire coastline in Scotland and 44 km west of the UK/Norway median line, in an area where water depth is approximately 92 m and the seabed type is characterised as offshore circalittoral sand, predominately comprising of fine sand, with sandy mud and shell fragments. Water circulation in the project location is anticlockwise. It is driven by the influx of Atlantic waters through the Fair Isle Channel moving southward along the Scottish and English coasts, with offshoot currents travelling east across the North Sea and a northward outflow through the Norwegian Trough. Within the region, there is an annual mean significant wave height between 2.11-2.40 m. The project is located 8.15 km northwest of the East of Gannet and Montrose Fields (EoGMF) marine conservation area, designated for offshore deep sea muds, and the species ocean quahog (*Arctica islandica*).

A 2019 site survey found that benthic taxa were regularly observed across the Jaws survey area and the taxa recorded were largely homogeneous. The most frequently observed taxon was the sea pen. The most frequently observed mobile taxa were urchins, hermit crabs, whelk and starfish. Other mobile taxa included brittlestars, snails and crabs. Bivalves, potentially including horse mussels (*Modiolus modiolus*) and ocean quahog (*A. islandica*), were also observed. One potential *A. islandica* adult (> 1 cm) was observed during the video footage at a transect, where it was



assessed as 'rare'. Other *A. islandica* adults were recorded from stations, where they were assessed as 'common'. Juvenile *A. islandica* (< 1 cm) were found at most stations.

The project works will take place during peak spawning of cod, Norway pout, mackerel and Norwegian lobster. Sightings of cetaceans have been recorded during the period for which the project works are planned, and more frequently during the late summer and autumn months (particularly for white-beaked dolphin). Seabird density is described as very high for the summer and winter periods when project works are planned but moderate during the summer breeding period. Seabird sensitivity is described as low for the area. The project area is within a moderately fished ground, but given the effort and landings value the area is described as a low importance fishing area to the UK industry. There is a large amount of other oil and gas infrastructure in the surrounding area (the closest is a pipeline less than 1 km from the well location) and shipping traffic is low. The project location is not in proximity to an aggregate extraction site or an offshore renewables site. There are no military exercise areas or other cables or wrecks in proximity to the project location.

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 to the environment from the activities associated with the change to the project were assessed, with particular focus on the predominant impacts resulting from physical presence from the rig / vessels, atmospheric emissions from vessel use, flare and vent activities, planned discharges to sea from chemical use, seabed disturbance from siting the rig and discharges, and accidental events such as an oil spill.

The drill rig has the potential to cause interference to other users of the sea, namely fishermen and vessel traffic, however the rig and support vessels will be located in a safety zone for the well. Its presence within the safety zone means only authorised vessels would be allowed within the 500 m radius of the well, therefore excluding users of the sea. Given the low importance of the fishing area and the low vessel traffic, and that the drilling project is a temporary activity - the impact is deemed insignificant. A support vessel will be on site continually to monitor for vessel traffic and provide alerts.

Emissions to air are possible from two main sources, (1) combustion plant used temporarily on the rig and vessels and (2) any flaring activity. The quantity of carbon dioxide equivalent from the vessel use amounts to 0.133% of the 2018 total emissions from offshore oil and gas activity. Flaring from the project for a worst-case 36 hr flow period, results in a carbon dioxide equivalent of 0.040% of UK offshore oil and gas emissions based on 2018 data.



The non-routine flaring will not have a detrimental effect to local air quality over the long-term, nor will it inhibit the ability to reach wider climate change goals. The environmental effects from emissions to air are not expected to have a significant impact on the environment. The impact of the vessel emissions will be mitigated by optimising vessel efficiency (i.e. minimising the number of vessels used and vessel trips required to achieve the construction deliverables) and hence minimising fuel use and avoiding the unnecessary operation of power generation / combustion equipment. The estimated emissions for flaring are those for the maximum volume of hydrocarbons anticipated to be flared. Flaring duration will be determined by the well test objectives. Solids will be monitored continuously and should an opportunity to shut-in the well early arise, flaring will cease to help reduce emissions.

Offshore registered chemicals will be used and discharged during the drilling of the well. The use and discharge of the chemicals have been risk assessed and modelled in accordance with other regulatory requirements. The use and discharge modelling shows a low risk to the environment from the chemicals. Use and discharge of chemicals is not expected to have a significant impact on the environment.

The area of temporary seabed disturbance resulting from rig positioning and discharge of water-based mud cuttings amounts to 0.034 km². The main receptor impacted by seabed disturbance will be the benthic communities. Physical disturbance can cause mortality or displacement of benthic species in the impacted zone. It remains possible that individuals of *A. islandica* may be directly impacted by seabed disturbance as a result of the placement of rig spud-cans, potentially resulting in individual mortality. It is not considered that the potential loss of a small number of juvenile individuals of this species will result in a significant effect on the population viability of this species. Based on cuttings discharge modelling, deposition of cuttings with a thickness > 6.5 mm is not expected beyond 215 m from the drilling location. The deposition of cuttings is therefore not anticipated to have an impact on *A. islandica* present within the nearby conservation area. Given that clumps of horse mussel (*M. modiolus*) or reefs were not observed at Jaws, it is not considered that the potential damage or loss of a small number of individuals will result in a significant effect on the population viability of this species. Research has shown that adult *M. modiolus* would not be able to emerge from burial unless assisted by local hydrodynamics. It might be expected therefore that any *M. modiolus* buried by drill cuttings (> 6.5 mm) are unlikely to survive. The *M. modiolus* that were observed were > 215 m from the Jaws well proposed location which is beyond the distance where the modelling predicted sediment thickness to be > 6.5 mm (based on cuttings from both the upper and lower sections being discharged). Individual mortality and disturbance of small areas of seapen habitat may occur where seapen and burrowed mud are impacted by the drill rig spud-cans on the seabed, however, this represents only a small proportion of the population and biotope found within the CNS. It is not considered that the potential damage or loss caused will result in a significant effect on seapen or burrowed mud habitat. The temporary installation of the drill rig spud-cans is not expected to result in significant changes to sediment properties and rapid recovery of faunal communities within the disturbed area may be expected through a combination of larval settlement and immigration of animals from the adjacent seabed once the spud-cans are removed. Therefore, based on the above,



impacts on benthic communities from the spud-cans will be temporary and localised.

If an accidental spill scenario from a well blow-out was realised, the expectation is that it could take 142 days before it is brought under control. During that time, the potential volumes of oil that could contribute to beaching, sediment contamination, water contamination and impacts to conservation species and habitats would constitute environmental damage and be classed as a major environmental incident given the potential impacts to benthos and birds. Species would be affected at a population level. Any such scenario would likely affect other countries adjacent to the UK (mainly the Norway seas and coastline areas to the south of the country). Such an unlikely effect would have a significant impact on various receptors of the environment. All activities will be carried out by trained and competent offshore crews and supervisory teams. An approved spill management plan to manage potential hydrocarbon releases will be in place (prior to activities being undertaken) and all vessel activities will be planned, managed and implemented in such a way that vessel durations in the field are minimised.

There are no expected transboundary impacts as a result of the project.

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.

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:

Not applicable.