

Our Ref: 01.01.01.01-4541U
UKOP Doc Ref:1174574



Offshore Petroleum Regulator
for Environment & Decommissioning

SHELL U.K. LIMITED
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LONDON
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Registered No.: 00140141

Date: 26th November 2021

Department for Business, Energy
& Industrial Strategy

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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
GALLEON, Galleon PN Platform, Maersk Resilient DRILLING PRODUCER WELL
48/20a-P9**

I refer to your amended application dated 18th November 2021, reference DR/2081/1 (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**

**GALLEON, Galleon PN Platform, Maersk Resilient DRILLING PRODUCER WELL
48/20a-P9**

DR/2081/1 (Version 1)

Whereas SHELL U.K. LIMITED has made an application dated 18th November 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: 26th November 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 17 May 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 Monitoring

The holder of the screening direction must confirm in writing to the Department whether the base-case flaring proposals will be met, prior to beginning flaring activity. Should the base-case scenario not be achievable prior to beginning the flaring operation, the applicant is advised to detail in their communication why this is the case.

The Department expects the applicant to provide confirmation in writing of the volume of gas flared immediately after completion of the base-case flaring activity, and after flaring activity has been completed where flare activity is required outwith the base-case.

6 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.

7 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.

8 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).

9 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

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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 comment.

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

This post screening direction amendment (ref DR/2081/1) relates to a extension of project dates.

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

- Repair of original well bore;
- Contingent drilling of side-track well (9-5/8 inch section only);
- Completion of the well; and
- Well testing.

Description of the Project

The original screening direction (ref DR/2081/0) related to the drilling of the well from May until December 2021.

This post screening direction amendment covers the drilling up until the end of March 2022 due project delays.



The drilling of the well will be facilitated by the jack-up drill rig Maersk Resilient and may take 247 days to complete. The project will be supported by seven vessels. Pending whether a side-track option of a lower section of the well is needed or not, the drilling campaign will move to the completion, hydraulic stimulation and well clean-out and clean-up phases, as well as a final well test. Part of the well clean-up involves washing out the well of debris and solids to ensure it meets specification for production. During this short process, the clean-out product from the well, with entrained hydrocarbons will be flared at the drill rig for two days with a rare contingent case for flaring of 7-12 days included. Drilling is planned to begin in May 2021, and the screening direction covers the period May to end of March 2022.

No cumulative impacts are expected to occur with any other existing or approved projects. The risk of a 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 change. There are no oil in water waste streams resulting from the project, however there will be waste in the form of cement, viscous drilling fluid and brine discharged as a result of the milling operation on the suspension plug. No naturally occurring radioactive waste is anticipated from the drilling project, however onshore regulatory approvals will be in place to deal with such a scenario should it arise.

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 71 km east from the Norfolk coastline in England and 72 km west of the UK/Netherlands median line, in an area where water depth is approximately 23-27 m and the seabed type are characterised as sand with abundant shell fragments and occasional gravel. The predominant regional current in the area is south-easterly, with north-easterly currents travelling adjacent to the continental coastal water. Within the region, there is an annual mean significant wave height between 2.21-2.50 m. The project is located within the southern North Sea (SNS) SAC and North Norfolk Sandbanks and Saturn Reef (NNSSR) SAC.

Megaripples were present throughout the survey area, which mostly comprised of sand with shell fragments and occasional gravel, with a prevailing orientation of south-west to north-east. Megaripple heights and wavelengths ranged from <0.1 m to 0.2 m and 4 m to 19 m respectively. Recent surveys also identified four sand waves in the south of the survey area, orientated south-west to north-east, with a maximum height above the surrounding seabed of 2.5 m. Lastly, numerous boulders were also present in the vicinity of Galleon PN. These findings are in-line with those from previous surveys in



the area. The habitat at the location is described as circalittoral coarse and mixed sediment. The site surveys confirmed this generic assessment. The fauna observed within this biotope complex was dominated by faunal turf species. Regularly observed taxa included soft coral. Additional fauna included starfish, sparse amounts of sponge, anemones, hermit crabs and crabs. Fish included gobies, dragonets, gadoid fish and the occasional flatfish.

All of the NNSR SAC is considered a sandbank feature. The SAC is also a protected site for the reefs formed by the worm - *Sabellaria spinulosa*. Site surveys of the location from previous years confirm presence of potential reefs, however none were observed in the most recent 2020 survey. The fluctuation in presence of *S. spinulosa* is not considered uncommon and the species is prone to winter storms and changing natural sandbank environment.

The project works will take place during peak spawning of mackerel. Sightings of cetaceans (harbour porpoise) have been recorded during the period for which the project works are planned. Seabird sensitivity is described as very high for the winter period when project works are planned but low during the summer and autumn periods. The project area is not within a commonly fished ground, and the area is described as a low intensity fishing area. There is a large amount of other oil and gas infrastructure in the surrounding area and shipping traffic is relatively high. The project location is immediately adjacent to an optional aggregate extraction site and approximately 31 km from an aggregate application area. The project location is within 40 km of an offshore renewables site.

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 and flaring activities, planned discharges to sea from chemical use, seabed disturbance from siting the rig.

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 an extant safety zone for the Galleon PN fixed installation. Its presence within the safety zone means only authorised vessels would be allowed within the 500 m radius of the Galleon installation. Therefore, no additional impact is foreseen, and any impact from physical presence of the rig is deemed insignificant.

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 0.16% of the 2016 total emissions from offshore oil and gas activity and 0.0043% of the UK total based on 2018 estimates. Flaring from the project is unavoidable for a two-day period, as the produced fluids can't be conveyed to Clipper installation for processing due to specification reasons. The carbon dioxide equivalent from flaring for two days results in a worst case of 0.037% of offshore oil and gas emissions based on 2018 data. The project base-case is to only flare for two days as thereafter, the fluids and gas will be conveyed to Clipper installation for processing and export. In the highly unlikely event that Clipper installation is not able to receive hydrocarbons at the time of well clean-up and testing, the produced fluids and gas will be flared for a worst-case time period of 12 days. In such a scenario the carbon dioxide equivalent amounts to 0.2% of the 2016 total emissions from offshore oil and gas activity.

The potential for flaring has been reduced to as lower level as possible by synchronising the project with the timing of Clipper installation being available to receive hydrocarbons. 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.

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. The use of more toxic oil based mud (used to drill the lower sections of the well) will be contained and shipped to shore for treatment and disposal. 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 amounts to 0.028 km². The predominant source of the impact is from use of anchors to position the rig and the placement of the spud cans from the rig legs on the seabed. The rig will be installed in two phases, (1) stand off position then (2) final position. Both phases require the deployment of anchors and spud cans. The spud can impact will be mitigated as they will be placed in the same depressions as those used by the drill rig in 2018. The habitats which may potentially be impacted by the temporary placement of the rig will be typical of the coarse and mixed sediments. The coarse and mixed sediment habitats exist in the context of a highly dynamic and energetic environment, and the large areas of undisturbed seabed that surround them are likely to facilitate recovery processes. Its expected that scars and depressions from placement of anchors and chains will recover to some extent after the project has been completed. The recovery from anchor depressions and scars at other sites has been used as an analogue for the project and its expected that material recovery could be observed within 1-2 years after completion of the drilling project. The environmental impact from such activity is not expected to be significant.

Any impacts on benthic species are considered short term as it is expected they will recolonise within a short period of time following the completion of the works. Fish are likely to rapidly return to the area once drilling operations have ceased. Mackerel



are known to be in peak spawning during the period when drilling activities are scheduled to take place (May to March 2022). Mackerel release their eggs into the water column to be fertilised and are not expected to be impacted from the project. Although these species have susceptibility to the rig positioning, they have a widespread distribution over the North Sea and are not considered to be significantly at risk at a population level.

The NNSSR SAC is treated as if the sandbanks feature consumes all of the site. The total area of confirmed Sabellaria reef habitat within the SAC is 8.83 km². The area of the features of the site which will be impacted by siting of the drill rig amounts to 0.007% in the case of sandbanks and 0% in the case of reefs. The impact to reef forming habitat is not considered significant. The nearest sandbank to the project location is approximately 7.3km south-east. Due to the small, localised and primarily temporary nature of the impacts, the proposed activities are not expected to affect the overall sediment transport patterns and the natural shape and development of the sandbank systems within the SAC. Therefore, the project at Galleon PN are not considered to have any significant impacts to the conservation objectives associated with Annex I Sandbanks or the functioning of the overall Norfolk sandbank system. The conservation objectives of the SNS SAC are to avoid deterioration of harbour porpoise habitats and their prey, or prevent significant disturbance to the harbour porpoise, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to maintaining favourable conservation status. Harbour porpoises prey, among others, on gobies, sandeel, whiting, herring and sprat. Gobies, sandeels and whiting are demersal species. Herring are pelagic species that spawn at the seabed, and sprat are pelagic throughout their life cycle. Spawning and nursery grounds of all these species occur within the Galleon PN area with juvenile whiting and sprat also likely to occur. The timing of the operations only overlaps with spawning periods for cod, herring, lemon sole, mackerel, Nephrops, sandeel, common sole, sprat and whiting. In addition, given the large areas covered by fish spawning and nursery grounds, and a very small proportion of the SAC site subject to physical disturbance, prey availability is unlikely to be significantly impacted.

Based on the above, it is considered that the project will not significantly affect achievement of the conservation objectives of this site. The total area of the SAC impacted by all oil and gas installations, other Shell projects (0.19 km²), other projects in the area (0.307 km²) and the proposed operations at Galleon PN (0.031 km²) will result in 0.23% of the North Norfolk Sandbanks and Saturn Reef SAC being impacted, which is considered to be insignificant.

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