

Our Ref: 01.01.01.01-5387U
UKOP Doc Ref:1247054



Offshore Petroleum Regulator
for Environment & Decommissioning

REPSOL SINOPEC RESOURCES UK LIMITED
50 BROADWAY
LONDON
UNITED KINGDOM
SW1H 0BL

Registered No.: 00825828

Date: 20th December 2022

Department for Business, Energy
& Industrial Strategy

AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

Tel [REDACTED]
Fax [REDACTED]

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**

SHAW, Stena Don DRILLING PRODUCER WELL 22/22a- SHC planned well

A screening direction for the project detailed in your application, reference DR/2329/0 (Version 3), dated 20th December 2022 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**

SHAW, Stena Don DRILLING PRODUCER WELL 22/22a- SHC planned well

DR/2329/0 (Version 3)

Whereas REPSOL SINOPEC RESOURCES UK LIMITED has made an application dated 20th December 2022, 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/14629/0/IDA.

Effective Date: 20th December 2022



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 4 January 2023 until 30 June 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.

Our Ref: 01.01.01.01-5387U
UKOP Doc Ref:1247054



Offshore Petroleum Regulator
for Environment & Decommissioning



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 does not have any 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 assessment 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 has 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 the 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 Shaw field development well: 22/22a-SHC.
 - Drill two sections: 42" and 26" using water-based mud (WBM)
 - Drill three sections: 17.5", 12.25", 8.5" with low toxicity oil-based mud (LTOBM).
 - Contingency to drill side track 12.25", 8.5" sections.
 - Run & cement conductor, 20", 13-3/8", 9-5/8" casings and 7" liner.
 - Run lower and upper completion and production packer.
 - Suspend well and attach xmas tree wellhead protection structure.
 - Perforate and produce.
- OGA (NSTA) consent application ref: WONS/14629/0/IDA

Description of the Project

This project is the drilling of the development well 22/22a SHC in the Shaw field (OGA (NSTA) consent application ref: WONS/14629/0/IDA) from STD Stena Don



semi-submersible drill rig which will either have anchors pre-laid for rig hook up later or else be deployed upon arrival.

The SHC well is a single well targeting oil. The well will be produced at the Montrose installation 17km north. It is estimated that drilling will take 93 days between 4th January 2023 and 30th June 2023.

As part of the project a trial of the cement system will be undertaken using a simple test mix. Overboard discharge of the cement mix is both the Best Practicable Environmental Option and Best Environmental Practice.

The deviated well will be drilled adjacent to Shaw drill centre manifold. The top-hole 42"x26" and 26" sections drilled with seawater and WBM sweeps, cuttings discharged at the seabed and conductor and 20" casing run and cemented. The rig riser and blowout preventer will be run.

A further three sections will be drilled with LTOBM, 17.5", 12.25" and 8.5" (the latter logged while drilling) with contingency to drill further 12.25 and 8.5" side track sections. LTOBM will be recovered from cuttings by shale shakers for re-use. A rotomill will thermally treat cuttings to worst case 1% residual LTOBM and reservoir hydrocarbon (the latter from the 8.5" section) on powder for discharge. It is expected 0.1% LTOBM/ reservoir hydrocarbon will be attained in practise. Thermally separated water phase fluid containing up to 30 mg/l or less LTOBM, analysed to confirm prior to discharge or else cuttings re-circulated for further thermal treatment to attain this. The 13-3/8" and 9-5/8" production casings cemented and 7" production liner cemented and logged.

Well contents including LTOBM and debris will be displaced with clean up pills removing solids and contaminants, displacing to filtered seawater. Fluid returns to the rig will be separated and either skipped and shipped to shore for processing and reuse, or where analysis confirms it meets permitted LTOBM criteria, discharged. Rig slops will similarly be separated for discharge or disposal onshore. The well will be suspended, blowout preventer removed and xmas tree run with chemical used to prevent hydrates forming in the tree and pressure tested. The lower and upper completions will be run and production packer set in the 7" liner. Deep set TCP guns will perforate the well. It will be flowed to the rig test separator and flared to remove solids and contaminants and flow tested. An over trawl structure will be deployed to protect fishing gear from snagging. The well will be suspended for later tie in to the production manifold in 2023.

In the dry well scenario after assessing the 8.5" reservoir section, no 7" liner or completions would be run, two cement plugs placed above the reservoir, the 9-7/8" casing cut and pulled, cement plug set into the 13 3/8" casing and a side track initiated with a further 12.25" and 8.5" section drilled and cased/ lined and completed prior to suspending the well for future production tie in.

There is not likely to be any significant impact from the project on population or human health. It is not considered to be likely that the project will be affected by



natural disasters. No pollution or nuisances are foreseen from the project.

No cumulative impacts are expected to occur with any other existing or approved projects.

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.

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: -

Well 22/22a-SHC is located approximately 190 km from the Scottish coastline and 50 km west of the UK/ Norwegian median line. Water depth at the drilling location is 95.4 metres.

Winds predominate from the south, south-west and west ranging from 10.1 to 10.5m/s annual wind speed at 100m above sea level. The central North Sea (CNS) has weak surface current with deeper current speeds of 0.1m/s and tidal spring current up to 0.5m/s. Neap current is less than 0.25m/s. Maximum current and tidal speed is up to 1.5m/s. Annual mean significant wave height is 2.18-2.19m and spring tidal range 1.04-1.07 m.

Seabed gradient is relatively flat at less than 0.5 degrees with minor depressions and scars. Predictive seabed mapping indicates 'Atlantic Offshore Circalittoral Mud/ Sand' with moderate current and wave energy. Surveys in the Shaw well area indicate variable sediment including loose fine sand, fine sandy clay, shells and shell fragment and silty shelly sand with shell and gravel to the north and southwest. This aligns to EUNIS habitat classification 'Atlantic Offshore Circalittoral Mud/ Mixed Sediment'.

The benthic community associated with these sediments are dominated by polychaete worms and bivalve molluscs. Surveys confirm the presence of annelids, arthropods, echinoderms, chordata and cnidaria with hydrozoan and porifera settlement on shell and hard substrate and nephrops indicative of muddier substrate. Thornback ray and urchin species, IUCN listed, were observed and low numbers of bivalves with siphons and ocean quahog. Seapen were observed in surveys with frequent burrows. The OSPAR listed 'seapen and burrowing megafauna communities' habitat is likely to be present in the area and the Priority Marine Feature (PMF) 'burrowed mud' is also likely to be present in the area. Species indicated the potential for the PMF 'offshore deep muds' and 'offshore subtidal sands and gravels'.

The well is located within the East of Gannet and Montrose Fields Nature Conservation Marine Protected Area (NC MPA) designated for 'offshore deep-sea muds', ocean quahog aggregations, a Priority Marine Feature (PMF)/ OSPAR listed



as threatened/ declining and their supporting sands and gravels habitat. Conservation objectives of the MPA are to maintain or increase the designated features. Surveys found quahog shells, but results were inconclusive, however their presence is assumed. SHC well is on the western outer boundary of the deep-sea mud area of the MPA (JNCC/ EMODnet mapping). Sediment variability is indicated and it is likely the well and drill rig may be situated on both clay and mixed sediment. There is no evidence of any Annex I habitats. The shallow depressions surveyed were not indicative of pockmarks and showed no evidence of methane derived authigenic carbonate. The nearest Special Area of Conservation (SAC) designated for pockmarks is the Scanner Pockmark 106 km away.

The drilling coincides with spawning periods for benthic sandeel and nephrops, cod (IUCN listed), Norway pout, mackerel at high intensity during the project and lemon sole. Sandeel may occur due to the mixed sediment at the well location but Nephrop burrows were also observed during survey, most likely aligned to the western outer boundary of muddy and sandy sediment in the MPA. Several nursery species are present including anglerfish, herring, mackerel, ling, blue whiting, cod, Norway pout and sandeel, all PMF species.

Seabirds observed at the well location include northern fulmar, European storm-petrel, northern gannet, Arctic/ great skua, black legged kittiwake, black headed/ lesser black backed/ glaucous/ great black backed, common and herring gull, common guillemot, razorbill, little auk, and Atlantic puffin. Long term decline in some seabird species has been observed. Seabird sensitivity to accidental spill is low for the proposed drilling period in this location and SHC well is 190km from shore.

Minke whale, common, Atlantic white sided/ white beaked dolphin and harbour porpoise have been sighted in block 22 but in low numbers with bottlenose dolphin. All cetaceans are 'species of national importance' (European protected species, Annex IV of the Habitats Directive and many PMF). Harbour porpoise and bottlenose dolphin are Annex II listed along with grey and harbour seals also PMF). The latter are unlikely in significant numbers 190 km from shore and density is low.

The project is in the National Marine Plan Area for Scotland. The SHC well is in International Council for the Exploration of the Seas (ICES) rectangle 43F1 with mostly disclosive fisheries effort, quantity and value data in 2021. Between 2017 and 2021 the area was dominated by trawl gears with low fishing effort. The highest value catch was shellfish compared to surrounding areas. Landings have fluctuated, but effort is low in a UK context. Shellfish water protected areas and mariculture sites are located across coasts of Orkney and Shetland and north east Scotland 190km from Shaw.

There are no military restrictions. Shipping levels are low. Drilling is being proposed within an existing 500m safety zone with the nearest oil and gas development 8.5km away. There are no marine cables, renewable energy, marine aggregates, or wrecks.

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.

Water based mud discharged at the seabed from the top-hole sections is mostly composed of natural constituents, water soluble and will be dispersed, diluted and broken down. Cuttings can smother benthic and spawning species and affect water quality in the short term. Drill cuttings are predicted to form a pile around the wellbore, those above 6.5mm up to 85m from the well declining rapidly thereafter.

The project is in the East of Gannet and Montrose NC MPA with PMF/ OSPAR listed habitat and benthic species. No ocean quahog aggregations were found at Shaw but one live adult was found in a subsequent survey. Assuming potential for 'seapen and burrowing megafauna communities' and quahog to be present, impact from sediment change, siltation and oxygen depletion will be highly localised and unlikely to be significant. Although drilling coincides with fish spawning, pelagic and nursery species are unlikely to be affected with water column recovery occurring within hours of drilling. *Nephrops* and sandeels are demersal species both potentially present due to mixed substrate being identified at the project site. The localised impact will not have a significant effect on fish populations.

Thermally treated cuttings powder and water phase fluid containing residual LTOBM and reservoir hydrocarbon is likely to remain in suspension in the water column and be widely dispersed and readily assimilated into the natural sediments. Modelling indicates recovery will occur with no likely significant impact on the environment.

Wellbore clean up using chemical pills and filtered seawater will contain LTOBM. This will be discharged subject to analysis confirming waste water discharge criteria is met, otherwise it will be skipped to shore for disposal. Rig slops containing LTOBM will similarly be permitted for discharge following analysis subject to discharge criteria being met. The discharge has been risk assessed and is not considered to have a likely significant effect on marine flora and fauna.

The discharge of chemicals used to drill the well, including cementing, wellbore clean up, and completion have been assessed and are not considered to have a likely significant impact on the marine environment.

Operations covered by this permit will coincide with low seabird vulnerability in Block 22/22 throughout the year, including neighbouring blocks with no data in November. Mitigation is in place to ensure the risk of any release or discharge that could be harmful to seabirds is minimised. The project is not considered to have a significant impact on seabirds.



A range of whale and dolphin species have been sighted in block 22 with low numbers of white beaked dolphin and harbour porpoise during part of the proposed drilling period. Other species may be present but not observed. All cetaceans are species of national importance, Annex IV European protected species and harbour porpoise is also Annex II listed under the Habitats Directive. Grey and common seals are unlikely this far from shore. Given the natural avoidance behaviour of cetaceans, it is not expected that these species would be significantly impacted by the project.

There will be no impact upon other users of the sea with a 500m safety exclusion zone excluding unauthorised access by vessels and prohibiting fishing vessels. The probability of collision risk is exceptionally low and impact on shipping is not considered to be significant. Moorings will extend up to 1.6km from the well, a vessel will be on site and other appropriate measures put in place to manage risk to other users of the sea.

Whether anchors are pre-laid or laid on rig arrival, the maximum disturbance area of the eight anchors will be 321.6m², penetration depth 1m and chain footprint 49,368m². Anchors are likely to remain submerged in the sediment during operations with greatest disturbance during laying and retrieval with potential direct loss of species in the mud or mixed sediment including potential OSPAR listed 'seapen and burrowing megafauna communities' and PMF 'burrowed mud', ocean quahog and sessile seabed organisms. While no aggregations of ocean quahog were identified, one adult was identified and it is assumed to be present. The designated species and habitat are sensitive to abrasion and penetration. Impact will be localised to 0.003% of the MPA. Seabed disturbance impacts are considered to be localised and recoverable over time and not considered to be significant.

There are no expected transboundary effects from the drilling operations. The nearest boundary (UK/Norway Median Line) is located approximately 50 km away. It is not considered likely that any planned discharge will be detectable at this distance from the drilling site.

Although not a planned activity, a worst-case major accident scenario resulting from a potential well blow-out was modelled and assessed. The probability of a large oil spill from the proposed operations is low. Therefore, it is considered that the control measures in place to prevent loss of well control minimise the risk of an oil spill which could have a significant impact and the proposed operations carried out as planned are not likely to have a significant effect on the environment.

The largest component related to atmospheric emissions is expected to be from the power supplied by the drilling rig, its support vessels and well clean-up to flare lasting up to 96 hours. Several control and mitigation measures will be in place including downhole gauges to minimise flow period, optimised burners and vessel mitigation measures. The emissions generated will be a minimal proportion of emission arising from oil and gas production and shipping. The well test will reduce the potential for future process upset resulting in subsequent emissions. It can therefore be concluded that impacts arising from emissions are not considered to be significant.



The drilling operations do not contradict any of the Scottish Marine Plan objectives and policies. It is considered that the drilling of the well is not likely to have a significant impact with other offshore activities or other users of the sea and no 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.

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.