

Our Ref: 01.01.01.01-5760U
UKOP Doc Ref:1297333



Offshore Petroleum Regulator
for Environment & Decommissioning

THREE60 ENERGY WELLS UK LIMITED
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ABERDEEN
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Registered No.: SC131282

Date: 22nd September 2023

Department for Energy Security &
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Dear Sir / Madam

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

**Devil's Hole Horst, Valaris Norway DRILLING APPRAISAL WELL 27/05- 27/5-A
planned well**

A screening direction for the project detailed in your application, reference DR/2397/0 (Version 3), dated 12th September 2023 has been issued under regulation 6 of the above Regulations. The screening direction notice, and any relevant conditions and comments are attached. A copy of this screening direction will be forwarded to the application consultees, the Oil and Gas Authority and published on the gov.uk website.

If you have any queries in relation to this screening direction or the attachments, please do not hesitate to contact [REDACTED] on [REDACTED] or email the Environmental Management Team at OPRED@energysecurity.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**

**Devil's Hole Horst, Valaris Norway DRILLING APPRAISAL WELL 27/05- 27/5-A
planned well**

DR/2397/0 (Version 3)

Whereas THREE60 ENERGY WELLS UK LIMITED has made an application dated 12th September 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/15340/0/IDA/1(v3) and WONS/15685/0/WT/1(v2).

Effective Date: 22nd September 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 22 September 2023 until 30 November 2023.

2 Commencement and completion of the project

The holder of the screening direction must notify the Department for Energy Security & Net Zero (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: OPRED@energysecurity.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:

There are no comments at this time.

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

OPRED@energysecurity.gov.uk

or

Offshore Petroleum Regulator for Environment & Decommissioning
Department for Energy Security & Net Zero
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:

-Drilling of a new appraisal well (A-planned; Devil's Hole Horst) which will be drilled in the central North Sea in Quad/Block 27/5. Operations are expected to last 73 days.

-The well will be drilled by a heavy-duty jack-up (HDJU) drilling rig, the Valaris Norway, which will have a 500m exclusion/safety zone established during drilling, and while it is on location.

-The Valaris Norway will maintain position with three legs, positioned on the seabed. No pre-emptive rock dumping is anticipated and scouring is not considered problematic



-The well be drilled in sections, all using Water Based Mud (WBM) with a discharge of cuttings to the environment. Mud will be recycled as much as possible, but there is a requirement for periodic discharges to the water column during wellbore displacement.

-The vessels used for the drilling of this well will include HDJU tug vessels, a supply vessel, a guard vessel and helicopter trips for personnel.

-A re-spud and a contingency sidetrack has been included to represent the worst assessment case.

-Aborted cement has been planned for as a contingency to deal with any unexpected blockages or problems whilst drilling.

-There will be standard tests conducted, to include logging-while-drilling, coring and wireline logging.

-A well test (consisting of two drill stem tests) for up to 60 hours is to be carried out on the well. Hydrocarbons flared will not exceed 2000 tonnes.

-A vertical seismic profile survey being undertaken.

-The well will be fully abandoned after the well has been drilled and evaluation of the formations have been undertaken. The abandonment of the well will be undertaken in accordance with the OEUK Guidelines.

Description of the Project

The Devil's Hole Horst (DHH) well is an appraisal well in quad/block 27/5 in circa 78m of water and will target Permian Dolomites and Fulmar Sandstone formations. The well will be drilled by the Valaris Norway HDJU drilling rig, which will be jacked-up on 3 legs. Once on location, the drilling rig will be served by supply vessels and helicopters moving personnel. An ERRV vessel will be on location during drilling to provide guard and emergency response, including surveillance of the temporary 500m safety zone.

The DHH well will be drilled using water based muds (WBM). One contingency sidetrack has been included, as well as a single re-spud of the well to allow for a worst-case drilling scenario to be assessed. Cuttings and mud from the top-hole sections (without a riser) will be discharged at the seabed, whereas in subsequent sections, drill cuttings will be cleaned and discharged from surface with muds being recycled and re-used, although displacement of well-bore will require mud discharge to the sea. Discharge of a single batch of aborted cement to the sea has been considered to necessitate any immediate action should the cement system be compromised by setting cement. The wellbore will be cleaned and 2 drill stem tests will be performed to determine characteristics of the targets. The well will be fully abandoned, with the casing being cut to 3m below the seabed and in accordance



with the relevant guidelines. Operations will be covered by a temporary 500m safety zone for the Valaris Norway, until it moves off location.

Operations are expected to last no longer than 73 days. The proposed project area is within the Central North Sea, and cumulative impacts from drilling discharges, atmospheric releases and oil and chemical releases have been assessed.

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

It is considered that there is not potential for the project to 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 extremely rare.

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

Location of the Project

Having regard in particular to the matters identified at paragraphs 2(a) to (c) of Schedule 5 to the Regulations, the environmental sensitivity of geographical areas likely to be affected by the project has been considered as follows:

The DHH well is located in central North Sea, approximately 152 km west of the UK/Norwegian median line and 122 km east of Aberdeen. Survey data collected in April 2023 shows the well location in circa 78m of water, in a flat area of negligible gradient. General reference identifies the wider Central North Sea as sand and slightly gravelly sand with some areas of muds in deeper waters. Seabed sediment composition was confirmed by the site survey as homogeneous, comprising 'featureless silty sands' across the majority of the survey area, with a small area of 'gravelly sands' noted at the eastern edge of the survey area. Boulders were identified as scattered and a small number of other contacts (including debris) were noted in the survey area.

Total organic carbon (TOC) and total organic matter (TOM) levels were low throughout the survey area, reflecting the ambient conditions for this region of the CNS. Total Hydrocarbon Content (THC) was considered to be indicative of background conditions in this region. Metal traces were not considered to be of concern, with levels generally representing ambient background levels.

Residual water movement is to the south-east, with average surface and near-bottom current speeds expected around 0.28m/s and 0.24m/s respectively. Maximum speeds expected are 1.21m/s and 0.82m/s respectively. Average wave height across the area is approximately 2m.

The April 2023 survey confirmed that the proposed DHH well location lies in an area



comprising the European Nature Information System (EUNIS) habitat 'Offshore circalittoral sand'. Fauna observed on the seabed photographs and video included starfish (*Asterias rubens*), brittlestars (*Ophiuroidea* sp.), anemones (*Actinaria* sp.), hermit crabs (*Pagurus* sp.), whelks (*Buccinidae* sp.) and flatfish (*Pleuronectiformes* sp.). Sessile organisms which were infrequently attached to sub-surface stones included hornwrack bryozoan (*Flustra foliacea*) and hydroids. Analysis of the infauna data revealed a high abundance of the sea urchin species *Echinocyamus pusillus* within all macrofauna samples. Macrofaunal data also revealed abundances of the amphipod *Bathyporeia elegans* and the annelid *Scoloplos armiger* and a high abundance of *Echinocyamus pusillus*.

A patch of slightly higher reflectivity was observed in the south east of the survey site area and was given the habitat classification of 'Offshore Circalittoral Coarse Sediment' due to the appearance of more shell fragments and coarser material in the and sporadic patches of cobbles.

Fauna observed on the seabed photographs and video was similar to the assemblages observed in the 'Offshore Circalittoral Sand' habitat, but was of slightly higher diversity and abundance given the greater availability of hard substrate for colonisation. Fauna included anemones (*Actinaria* sp.), fish (*Actinopterygii* sp.), dead man's fingers (*Alcyonium digitatum*), starfish (*A.s rubens*), Bryozoan/Hydrozoan turf, whelk (*Buccinidae* sp.), urchins (*Echinoidea*), hornwrack (*F. foliacea*), brittlestar (*Ophiuroidea*), hermit crab (*Pagurus* sp.) as well as flatfish (*Pleuronectiformers* sp.).

Macrofaunal analysis indicated a diverse macrofaunal community, with multivariate interpretation revealing a single cluster for the DHH macrofaunal community, suggestive of the presence of an even macrofauna community and one biotope across the survey area. There was no indication of superabundance of any species that could indicate a disturbed faunal community.

The potentially sensitive habitats and species, Ocean quahog (*Arctica islandica*) and Lesser sandeel (*Ammodytes marinus*) are known to occur within this region of the CNS for their spawning and nursery grounds. However, during the DHH site survey, only a single adult (>5 cm shell size) specimen of ocean quahog was recorded but there was no evidence of *A. islandica* siphons on any video footage or still photographs within the survey area. A total of five juvenile individuals were recovered from the grab sampling within the DHH survey area. Sediments were deemed unsuitable for sandeel habitat by assessing the particle size data collected during the site survey in April 2023, which demonstrated all stations comprised of finer material than lesser sandeels are known to prefer for spawning.

Fish species that use ICES Rectangle 42E9 as spawning grounds include cod, lemon sole, Norway pout, plaice, Norway pout, sandeel, sprat and whiting. However, environmental conditions indicate that the proposed DHH well is predominantly located in an area which is 'Unfavourable' for spawning cod. Fish species utilising ICES Rectangle 42E9 for nursery grounds include anglerfish (monkfish), blue whiting, cod, haddock, European hake, herring, lemon sole, ling, mackerel, plaice, Norway pout, sandeel, sprat, spotted ray, spurdog (also known as spiny dogfish) and whiting



(at high intensity). However, spawning does not occur for some of these species during the window of operations.

Minke whale, white beaked dolphin, white-sided dolphin, bottlenose dolphin and harbour porpoise have all been recorded in the wider SCANS-III survey area (central North Sea region). Within the smaller ICES rectangle (42E9), fewer species are reported (no bottlenose dolphins) and densities are categorised as very low or low. Due to the distance of the well from shore, and using density maps of the area of seals at sea, it is unlikely that the 2 most common seal species, the grey and common seal, will be present in the vicinity of the drilling activity.

There are no marine protected areas (MPAs) located within 40 km of the proposed DHH well. The closest MPA is the Turbot Bank Nature Conservation Marine Protected Area (NC MPA) located approximately 59 km to the north-west, designated for the protection of sandeels.

The DHH appraisal well lies within fishing designated ICES rectangle 42E9. A fishing liaison officer's report produced from a 2022 3-D survey in the area undertaken by the applicant identified known types of fisheries in this area which include static gear crab and lobster pots, trawlers (targeting Nephrops) and, at specific times of the year, squid. In addition, whitefish trawlers (targeting cod, angler fish (monkfish), haddock, whiting, lemon sole, witches, megrim, ling, coley and hake) are occasionally found in the area, as well as white fish seine net vessels (targeting cod, angler fish (monkfish), haddock, whiting, lemon sole, witches, megrim, ling, coley and hake). There is also a seasonal herring fishery in mid-summer and a mackerel fishery in winter. During the 3D seismic survey operations, twenty one fishing vessels were recorded by the FLO as being present in the area, with all vessels partaking in trawling activities. This is reflected in fisheries statistics reviewed over the last five years, which show demersal fisheries dominate landings weight and sales value, followed by shellfish fisheries and pelagic fisheries. Haddock is the largest contribution to the fishery in terms of value and live weight. Demersal sales and landings weight (tonnes) are relatively low as are shellfish sales and landings weight (tonnes). Fishing effort is low for all gears.

The closest active aquaculture sites to the DHH well are located approximately 118 km to the west on the Scottish coastline. It is not anticipated that the drilling of appraisal well will have a significant impact on the fishing industry in the area.

The proposed DHH well is located within a hotspot area for black-legged kittiwake, guillemot, and northern gannet in the breeding season, northern gannet in the non-breeding season and Atlantic puffin in the post-breeding dispersal season. The predicted at-sea seabird density in the vicinity of the proposed DHH well location shows less than 2 seabirds per kilometre squared (km²) during the breeding season (March - September), increasing to less than 8 seabirds per km² in winter (November - March). The most abundant species present are guillemot and kittiwake in the breeding season, fulmar and kittiwake over winter, and guillemot in the post breeding dispersal period. An assessment of the median Seabird Oiling Sensitivity Index (SOSI) scores for the proposed DHH well location indicates that the sensitivity of seabirds to oil is low during the drilling operational window although no data is



available for November.

There are 16 shipping routes within 10 nm of the proposed DHH well location, with an average of between one and two vessels passing per day. The main vessel type operating close to the DHH location is offshore support, with the predominant size range between 1,500 and 5,000 DWT. Producing oil and gas fields are concentrated to the east and north east of the DHH well location, with the closest being the Catcher FPSO (Operated by Harbour Energy) at 53 km to the SE. No pipelines cross through UKCS Block 27/5 and no wells have previously been drilled in the Block. The closest offshore windfarm (Bellrock) is less than 1 km from the proposed DHH well and is in the pre-planning phase. The Ossian and Campion offshore windfarms are similarly at pre-planning, with the areas lying approximately 20 km and 24 km respectively from the DHH well. There are no telecommunications cables, dredging activities or military restrictions within the block. There are no wrecks or historic monuments within the vicinity of the well. It is therefore not anticipated that the proposed project will have an impact on these aspects.

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

Type and characteristics of the potential impact

In accordance with paragraph 3 of Schedule 5 to the Regulations, the likely significant effects of the change to the project on the environment have been considered. Potential effects on the environment from the activities associated with the project were assessed, including impacts arising from atmospheric emissions, seabed disturbance, physical presence, planned discharges and accidental spills. Other than the matters considered further below, there is not potential for any significant impact from the project on population and human health.

The Valaris drilling rig will be sited at the drilling location and a new, temporary 500m exclusion zone will be established which excludes unauthorised access of vessels and prohibits access to fishing vessels. This will remain in place until the rig moves off location, having completed well abandonment. A dedicated guard vessel (ERRV) will be on location to support the rig and warn other users of the sea of the presence of the rig and can initiate actions to offset a collision risk to the rig. In any case, fishing activities and shipping density within the area is low and so the risk of a collision has been determined as extremely rare. No additional impacts to other marine users are identified as part of the drilling of DHH well and adequate standard mitigation measures are in place. Therefore, there are no significant effects likely in terms of physical presence from the proposed project.

Seabed disturbance will result from the discharge of WBM drill cuttings (both at the seabed and from the sea-surface), operational cement discharges and the footprint of the Valaris drilling rig. Cuttings dispersion modelling determines that the cuttings piles are deposited close to the well site, and due to the weak tidal currents in the area, cuttings deposition is deemed to have a negligible impact on benthic



communities at a distance of less than 270m from the well. It is expected that the highest cuttings pile thickness of around 7.4cm will occur in the immediate vicinity of the well. The residual area of impact on the seabed is determined as 0.082km².

Given the highly localised footprint and the resilience and recovery potential of the seabed sediments and benthic habitats and species, it is considered that impacts on the seabed are not significant. Whilst ocean quahog are considered to be more sensitive to smothering than most of the other species identified, this species is reported as able to tolerate much of the predicted deposit depths and given their widespread distribution over the CNS and limited numbers in the proposed area, it is expected that operations will not be detrimental to the species and that benthic communities in general will recover.

It is expected that any cement discharges will be limited and these would be diluted and dispersed within the water column. Any particles that eventually settle on the seabed would occur as a very thin layer spread over a wide area and would not form any conglomerations. Impact on habitats and species is determined as not significant.

Total suspended sediments will increase during operations but will be highly localised and in any case are not expected to have any effect beyond 5km. Levels of high exposure, which could result in mortality of pelagic organisms, were not predicted.

Whilst noise will be generated from the project activities, impulsive noise from the VSP survey is very limited and directed down-hole. Extrapolation from previous modelling from a much larger seismic survey concluded fish and cetaceans would not be significantly affected, due to limited exposure and limited sensitivity during the proposed operational window. Disturbance was assessed for fish, cetaceans and seabirds, but with standard operational procedures in place, this is deemed not significant given that the VSP operations are limited to less than 3 hours with highly directional noise and that all species are documented as returning shortly after operations have ceased and have alternative foraging areas.

Chemicals to be used during the proposed operations have been risk-assessed and are deemed acceptable, with the majority having little or no impact on the environment.

There will be an expected discharge of 532kg of oil, entrained on cuttings whilst drilling the lower sections of the well. A maximum of 1kg of reservoir hydrocarbons will also be discharged during the Drill Stem Tests as the associated produced water will contain oil. Standard procedures for both operations will ensure that amounts are minimised. Impacts are not expected to be significant as they will be discharged as a minimal coating and/or will further dilute with the turbidity of the water and begin degradation through natural biodegradation processes.

There are no expected transboundary effects from the proposal to drill DHH well. Although the UK/Norwegian median boundary is located approximately 152 km from the proposed well location, it is expected that due to the relatively short duration of



the activities, there should be no transboundary effects.

As the well to be drilled is an appraisal well, an assessment has been included within the project proposal to assess a worst case uncontrolled well blow out and the subsequent potential for a Major Environmental Incident (MEI). The assessment concluded that there is a potential for an MEI to occur and such a spill would likely travel across the Norwegian/UK median line after 88 hours. However, the risk of an oil spill event as a result of a well blow out from the DHH well is extremely rare and the developer has adequate and appropriate mitigation in place to prevent such an occurrence.

The proposed operation will utilise a guard vessel, tugs and supply vessels, and 3 flights per week to/from the drilling rig for personnel. Atmospheric emissions have been assessed from the diesel used for each vessel and the time spent on location as well as from flaring, which results from the drill stem tests. The total atmospheric emissions (asCO₂(e)), for undertaking the proposed project is approx. 12,834 tonnes and accounts for 0.09% of the total UKCS CO₂(e) emissions (using 2021 as a baseline). The developer has set an environmental performance target baseline for 2022 and commitments to sustainable development, recognising and supporting the UN Sustainable Development Goals and the Paris Climate Agreement. Given the offshore location of the proposed DHH well, it is anticipated that the atmospheric emissions generated during the proposed drilling operations will disperse rapidly, approaching background levels within only tens of metres. Operational procedures and efficient technologies are to be used which will minimise any emissions. As any deterioration in local air quality would be short-term no adverse significant effects are predicted.

2) Decision

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

3) Mitigation of significant effects

The following are features of the project or measures envisaged that the developer has proposed to avoid or prevent what might otherwise have been significant adverse effects on the environment:

n/a