

Our Ref: 01.01.01.01-5061U
UKOP Doc Ref:1197679



Offshore Petroleum Regulator
for Environment & Decommissioning

DANA PETROLEUM (E&P) LIMITED
78 CANNON STREET
LONDON
EC4N 6AF

Registered No.: 02294746

Date: 29th March 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**

BARRA FIELD, PLANNED DEVELOPMENT WELL: 210/24a- BP-7

A screening direction for the project detailed in your application, reference DR/2239/0 (Version 3), dated 23rd March 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**

BARRA FIELD, PLANNED DEVELOPMENT WELL: 210/24a- BP-7

DR/2239/0 (Version 3)

Whereas DANA PETROLEUM (E&P) LIMITED has made an application dated 23rd March 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/13704/0/IDA/1 Version 1.

Effective Date: 29th March 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 1 April 2022 until 30 September 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:

The Department has no comments.

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

bst@beis.gov.uk

or

Offshore Petroleum Regulator for Environment & Decommissioning
Department for Business, Energy & Industrial Strategy
AB1 Building
Crimon Place
Aberdeen
AB10 1BJ

Tel [REDACTED]

Fax [REDACTED]



SCHEDULE OF SCREENING DIRECTION DECISION REASONS

The Secretary of State has decided that, based on the information provided, the project is not likely to have a significant effect on the environment. The main reasons for this decision are:

1) Decision reasons

The following provides a summary of the 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 Barra field 210/24a-BP-7 development well - South drill centre
Five well sections to be drilled.

- Drill opening hole 42"x36"x26" and 26" section with water based mud (WBM), cuttings and drilling fluid directly discharged at seabed.
- Installation of blow out preventer (BOP)
- Drill 17.25" section with riser using WBM, cuttings and mud discharged from the rig.
- Two lower 12.25" and 8.5" sections drilled using low toxicity oil-based drilling mud (LTOBM), cuttings returned to rig for thermal treatment or else skipped and shipped onshore.

Run and cement a 30" conductor to seabed.

Run and cement 20", 13-3/8", 10- "x9-5/8" casings (not to seabed).

After 8.5" section drilled, run lower completion.

Clean hole below lower completion from LTOBM to brine then clean above it.

Run suspension testing reservoir isolation.



Pull BOP, set wellhead tree and protection structure at surface.
Rerun BOP then upper completion (5 " production tubing).
Well left suspended and BOP recovered.
Well to be tied to Western Isles Floating Production Storage and Offloading (FPSO) vessel.
Well clean up and testing.
In the dry case the well abandoned.

Description of the Project

This project is the drilling of subsea development well 210/24a BP-7 in the Barra field (OGA ref: WONS/13704/0/IDA/1 Version 1) using the Island Innovator semi-submersible rig which will be positioned using eight anchors and chains with its own 500m temporary exclusion zone predominantly located within the existing Southern drill centre 500m safety exclusion zone.

The Barra BP-7 well will be a single well targeting oil in the Lower Brent reservoir, produced gas being utilised for export, gas lift and fuel gas by the FPSO. The Southern drill centre manifold has capacity for eight satellite wells and so far two wells LI-2 and UP-2 have been drilled to date. BP-07 represents the third well 32m southeast of the drill centre manifold. The Western Isles development also includes a North drill centre with capability for eight wells with four drilled to date. It is estimated that drilling of BP-7 will take 81 days (25% of this duration being contingency) with a maximum of 3 additional days for clean up and testing when tied to the FPSO.

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 well will be drilled as a deviated well in five sections. Cuttings and WBM from the hole opening 42 x 36 x 26 and the 26" sections drilled with WBM will be discharged direct at the seabed. The drill rig riser will be attached and cuttings and WBM discharged from the 17.5" section to sea surface.

Cuttings from the two lower-hole 12.25 and 8.5" typically contain 15% LTOBM and 15% water for sections drilled with LTOBM. These will be either thermally treated, that is broken down to cleaned powder for discharge by heating to vaporise off oil and water from solids. Residual powdered solid chemical oil content reduced to typically 0.1-0.2% (but assumed worst case 1% for this assessment). The vapourised oil and water condensed back to liquid will be separated with most oil being recovered for re-use and water containing minimal LTOBM (typically achieves around 13mg/l but assumed as 30 mg/l for this assessment) discharged overboard or else LTOBM contaminated cuttings will be skipped and shipped onshore for disposal. Monitoring of water and cuttings samples will be undertaken throughout operations to adhere to regulatory limits. LTOBM cuttings will contain minimal reservoir hydrocarbon from the hydrocarbon bearing zone as the well is drilled over balanced, any present recovered with base oil for re-use.



Casings will be run into each section and cemented into place to provide structural strength, the top hole 36x30" conductor cemented to seabed with minimal cement discharge, controlled by Remotely Operated Vehicle (ROV). All other casings will not be cemented back to seabed with no discharge. During normal cementing operations any discharges of cement mixture will be limited to cleaning residual cement from the mixing unit.

Once the lowest 8.5" section is drilled a 5.5" lower completion including sand screens and swell packer will be run and the hole below circulated from LTOBM to brine with clean up chemicals. The completion will be set in place above the 9 5/8" casing, reservoir isolated and hole above lower completion cleaned from LTOBM to brine.

Wellbore clean up fluids and fluids used to run completions contaminated with LTOBM with minimal reservoir fluids will be collected as slops and shipped and shipped for onshore disposal. Visibly clean wellbore cleanup/ completion brine will be filtered and re-filtered to hydrocarbon oil in water content of equal to or less than 30 mg/l, samples analysed throughout prior to discharge.

The well suspension will be run, BOP recovered, and wellhead tree and protection structure placed with the BOP locked onto the well tree to allow the upper completion tubing to be run in brine and tubing attached to the tree. All well control devices will be tested and left suspended pending tie in to the FPSO. Once connected to the FPSO, the well pressure will be reduced displacing wellbore fluid to gas, reducing the pressure to induce hydrocarbon flow.

The well will be flowed to the test separator on the process train of the FPSO, oil immediately processed for export. Produced gas requires stable pressure for compression to use as fuel gas, for gas lift or export. Initial well pressure can fluctuate rapidly. If gas is routed for compression during this stage the FPSO would shut down requiring import gas and flaring to restart the process. Unstable gas requires well test and clean up with support from import gas (if required) before it can be sent to process for compression. The maximum period for well testing proposed is 72 hours and/ or 448 tonnes of gas flared but as soon as stable gas will be compressed for use. The FPSO flare consent may require change FCON/6007/0, however discharge of initial wellbore completion brine and associated chemicals is covered by existing FPSO permits.

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 210/24a-BP-07 will be located approximately 30 m from the South drill centre manifold of the Western Isles development, 90km northeast of the Scottish coastline and approximately 59 km west of the UK/ Norwegian median line. Water depth at the drilling location is 153 metres.

Tidal currents in the vicinity of Block 210/24a are typical of the offshore Northern North Sea (NNS), with maximum surface current speeds for mean spring tides of ca. 0.01 m/s in open water. The annual mean significant wave height in the south of the NNS from 2.11 to 2.40 m to 3.31-3.60m in the north, with a mean spring tidal range of 2.71 to 3.0 m.

Surveys of the area indicated a heterogeneous seabed over the Western Isles development ranging from a veneer of silt, shelly gravelly sand exposed in places to soft to firm clay with sand in the western half of the area and exposure of this veneer in the east to soft to hard gravelly sand clay, dense silt, shelly gravelly sand and cobbles. Images show stations with sandy seabed, visible gravel and or cobbles, and two sample stations with mud with the station nearest the well showing sand, shell, gravel and cobbles. Sand was the dominant sediment at all stations. There is no evidence of any Annex I habitats, or UK Biodiversity Action Plan (BAP) priority marine species. The closest protected site is Pobie Bank Reef Special Area of Conservation (SAC), 59km southwest, designated for Annex I stoney and bedrock reef and the closest Nature Conservation Marine Protected Area (NC MPA) is over 90km from the proposed well. However, the priority marine feature (PMF) "offshore subtidal sand and gravels" mapped on the National Marine Plan in this area is consistent with the findings of surveys, also likely to be the UK BAP priority habitat "subtidal sands and gravels".

Environmental baseline surveys of the area found that the benthic community of the area was polychaete-dominated which is typical of this region of the North Sea. Faunal analysis found four species of annelid polychaetes, eight species of echinoderms, various arthropod, chordate, cnidarian, hydrozoan, mollusc, poriferan and brachiopod taxa present. Epifauna were more diverse with anemones and ascidians and similar results in the wider area. The most frequently abundant species were polychaetes, molluscs, enchinoderms, arthropods, juvenile brittle star and heart urchin and other species including sea squirt, worms spider and seapen. Species such as *Galathowenia oculata* and *Prionospio cirrifera* were noted indicating intolerance to hydrocarbons and heavy metals respectively. Megafauna were typical of this area of the North Sea. Results were similar to earlier surveys. *Arctica islandica* (ocean quahog), a priority species listed on the UK BAP and OSPAR threatened/ declining species OSPAR (2008) was found at two survey locations but not typical of the sediment found.



The proposed operations will coincide with the spawning periods of haddock, Norway pout, saith and whiting and nursery grounds for several species. Priority marine species using the area for spawning/ nursery area include anglerfish, blue whiting, ling, herring, mackerel, Norway pout, saithe, spurdog, whiting and cod, European hake, haddock, Dover sole, horse mackerel, plaice, sprat with probability of juvenile fish recorded as low.

Seabird density notes the presence of northern fulmar, sooty shearwater, European storm petrel, northern gannet, Arctic/ long tailed/ great skua, black legged kittiwake, great black backed/ lesser black backed/herring/ glaucous gull, common guillemot, razorbill, little auk and Atlantic puffin with declines in northern fulmar and black legged kittiwake notable. Seabird sensitivity to accidental spill is low for the proposed drilling period in this location.

During the proposed period of operations sightings of low to very high numbers of cetaceans occur in the area of the project, especially minke whale, white-beaked dolphin and harbour porpoise, the latter two species having high numbers of sightings in July and low sightings otherwise for those months with recordings. All cetaceans are 'species of national importance' (listed as European protected species Annex IV of the habitats directive and PMF (harbour porpoise listed in Annex II of the same directive) Grey and harbour seals are unlikely to be found in significant numbers 90km from shore.

The project is in the National Marine Plan Area for Scotland. BP-7 well is located in International Council for the Exploration of the Seas (ICES) rectangle 51F0, an area targeted for demersal species by live weight for the last few years apart from 2017 (which was more pelagic by weight). Landings in 2020 were below average but effort and landings increased from 2016 to 2020 and effort (mostly trawls) focused on May and June (effort highest in the southwest of the area) but landings and value from 51F0 were below average compared to other ICES areas. The greatest value species in 2020 was megrim.

A vessel traffic survey was undertaken at an analogous well location UP-3 well indicating 17 shipping lanes and approximately 125 vessels are likely to pass within ten nautical miles of the BP-7 well or 4.45 vessels per day mostly comprising supply vessels associated with the functioning of the Western Isles FPSO, Tern and Cormorant platforms. A moderate to low collision frequency is calculated. The BP-7 rig location is predominantly within the existing 500m safety zone of the Southern drill centre. Anchors extend slightly beyond this zone and further risk management measures will be put in place.

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.

The discharge of chemicals used to drill the well, including drill fluids, cementing, completion and well clean-up operations have been assessed and are not considered to have a likely significant environmental impact. Water based/ cuttings from the tophole sections and 17.5" section will be discharged at seabed/ sea surface respectively, WBM composition is similar to natural sediments. A localised pile up to 2-4m is predicted immediately around the wellbore decreasing rapidly up to 50m from it.

Cuttings from the lower sections containing LTOBM (chemical oil) will be thermally treated to worst case 1% LTOBM in resulting powder. The treatment unit routinely achieves a lower 0.1-0.2% oil in powdered cuttings content for discharge. This is predicted to form a less than 0.05mm discharge over 70km² area. Vaporised LTOBM chemical oil and water are condensed to liquid, separated into oil phase fluid for re-use and water phase fluid which is analysed to achieve worst case 30 mg/l or less of LTOBM prior to discharge. The thermal treatment unit routinely achieving 13 mg/l LTOBM in water.

During normal cementing operations any discharges of cement mixture are limited to minor cement discharge at the seabed in securing the tophole section, minimal initial test volume and residual volume from cleaning out mixing units after use with chemicals risk assessed with no likely significant environmental impact.

Fluids from cleaning below and above the lower completion wellbore and from running the completions consist of brine, clean up pill and residual wellbore reservoir hydrocarbon and LTOBM. This fluid is stored as slops. The heavily contaminated slops are skipped and shipped for onshore treatment and disposal. The visibly oil free brine is filtered and re-filtered to achieve equal to or less than 30 mg/l reservoir hydrocarbon content. Discharges have been assessed and are not considered to have a likely significant effect on the environment.

Impacts from the discharges on the seabed (PMF offshore subtidal sands and gravels, UKBAP subtidal sand and gravels) and associated benthic fauna is expected within a few hundred metres of the well, but recovery over a short period of time is expected due to dispersion, dilution, photo and biodegradation and oxidation. *A. islandica* can tolerate some disturbance and although the proposed project coincides with fish spawning and nursery species which release eggs into the water column there are no benthic spawning fish species present during proposed operations impacted by seabed disturbance. It can be concluded that the project will not have a significant effect on seabed habitat, benthic/ fish species.

Operations covered by this permit will coincide with periods of low seabird sensitivity for Block 210/24. There are no marine protected areas in the vicinity of the project. 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.

Mink whale and Atlantic white-sided dolphin have been sighted with low density in May for both and low and high density respectively in July. Harbour porpoises are similarly sighted during the proposed period of operations with low density in May and August and high in July. 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. Given the natural avoidance behaviour of cetaceans, it is not expected that these species would be significantly impacted by the project.

The project will use the Island Innovator semi-submersible drilling rig with eight anchors and mooring spread pre-laid for hook up to the rig. The maximum disturbance area of the anchors has been calculated to be 228m². The mooring chains have a worse case disturbance of 84,950m². Anchoring the Island Innovator has the potential to cause disturbance to the seabed (PMF offshore subtidal sands and gravels) and marine communities, including direct loss of habitat and sessile seabed organisms and damage to *A. islandica* individuals in a localised area. The anchors will remain submerged in the sediment during operations and the disturbance will be greatest during the laying and retrieval of the anchors. Seabed disturbance impacts are considered to be temporary and not considered to be significant.

There is a 500 m radius safety zone around the well and rig location but the anchors and chains extend beyond this area. The safety zone excludes unauthorised access by vessels and prohibits access to fishing vessels. Probability of collision risk is low with most risk arising from offshore supply vessels within 10 nautical miles of the project and transiting fishing vessels. The effects on shipping navigation are considered not to be significant. Appropriate measures including communications, surveillance monitoring, guard vessel and navigational markings will be in place to manage any risk to other users of the sea. A well tree and protection structure will be laid for life of field to mitigate snag hazard. It is concluded there will be no likely significant effect on other users of the sea.

There are no expected transboundary effects from the drilling operations from the project location. The nearest boundary (UK/Norway Median Line) is located approximately 59 km away. It is not considered likely that any planned operational discharge (chemicals, hydrocarbon) 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 emissions is expected to be from the drilling rig and associated support vessels and the well test/ clean up flaring, but assessment indicates that the project will generate emissions that are a relatively small proportion of emissions arising from UKCS oil and gas production. Minimal flaring is anticipated on the FPSO to maximise recovery of produced gas. A number of control and mitigation measures will also be in place to minimise impacts. It can therefore be concluded that any impacts from emissions from the project 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:

There are no significant adverse effects on the environment.