

Our Ref: 01.01.01.01-5127U
UKOP Doc Ref:1217194



Offshore Petroleum Regulator
for Environment & Decommissioning

SERICA ENERGY (UK) LIMITED
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Registered No.: 04073712

Date: 28th July 2022

Department for Business, Energy
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Dear Sir / Madam

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

North Eigg 3/24c -NE1, Planned Exploration Well

I refer to your amended application dated 28th July 2022, reference DR/2249/2 (Version 2).

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**

North Eigg 3/24c -NE1, Planned Exploration Well

DR/2249/2 (Version 2)

Whereas SERICA ENERGY (UK) LIMITED has made an application dated 28th July 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/14016/0/IDA/1 (version 1).

Effective Date: 28th July 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 July 2022 until 30 November 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:

N/A

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]



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. This document 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 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

Conduct a downhole explosive severance on the drill string which has become stuck during the re-spud of the well.

Description of the Project

This screening direction DR/2249/2 Version 2 relates to the requirement to conduct a downhole explosive severance on the drill string which has become stuck during the re-spud of the North Eigg exploration well.

After re-spudding the well and drilling the 36 inch top hole section, the drill string has become stuck downhole at 1,059 ft MDBRT, similar to the original spud. Despite best endeavours, manipulation and agitation have not resulted in the tool string freeing itself and there is a requirement to conduct a downhole explosive severance on the drill string with a total explosive charge of 0.5 kg of High Melting Explosive (HMX) between 260 ft - 360 ft downhole (below mud line).



The assessment of the impacts as described below still remain valid.

Two previous screening directions have been granted for this project, DRA/2249/0 (Version 2) and DRA/2249/1 (Version 1). DRA/2249/0 (Version 2) relates to the drilling of the North Eigg exploration well and DRA/2249/1 (Version 1) which relates to a re-spud of the 36" section only due to a stuck drilling pipe.

The project consists drilling of an exploration well using the semi-submersible Paul B. Loyd Junior (PBLJ) Mobile Offshore Drilling Unit (MODU), which requires the pre-lay of the anchor system. Positioning and mooring of the PBLJ MODU requires eight anchors to be pre-laid on the seabed before the arrival in the field. A single Anchor Handling Vessel (AHV) will be deployed to pre-lay and remove anchors. A guard vessel will be in place to guard the anchors until the ERRV moves on location with the MODU.

During and after drilling, data will be acquired on the well by conducting a Vertical Seismic Profiling (VSP) survey, after which the well will be permanently plugged and abandoned (P&A), as per current UK regulatory guidelines.

The drilling of the North Eigg exploration well as a new prospect has not been previously assessed.

The well is expected to be high pressure and high temperature, with anticipated reservoir conditions of 12,500 psi pressure and 150 C / 302 F . Anticipated hydrocarbons are gas and condensate. The purpose of drilling the well is to determine any commercially viable reserves.

The well will consist of riserless WBM sections (36" and 26") after which a BOP will be installed with a riser package. The 36" section requires to be re-spudded due to a stuck pipe in the original hole. As the top-hole sections are riserless, mud and cuttings for these sections will be discharged directly to the seabed. A maximum total of 1,321.3 tonnes of cuttings could be discharged to the seabed from these WBM sections.

Casings will be cemented with minimal returns to the seabed. The worst-case scenario however, is that 253 tonnes of cement (and associated additives) may be discharged to the seabed in the event that operations are required to be aborted. After cementing the WBM sections, a BOP will be installed with a riser package. Lower sections will all be contained and drilled using Low Toxicity Oil Based Mud (LTOBM) with zero discharge. LTOBM sections will consist of an expected 17.5", 12.25" and 8.5" section (with contingency for a 6.5" section instead). LTOBM cuttings will be skipped and shipped to shore for treatment and disposal. A maximum total of 1,087 tonnes of LTOBM cuttings contained in 418.17m³ of LTOBM will be circulated back to the rig and skipped and shipped onshore for treatment and disposal.

Data acquisition may be determined by logging while drilling (LWD). However, in the event of ambiguity, further wireline logging will be required prior to declare a success



or failure case, which will include wireline fluid sampling, fluid typing from 2D NMR (Nuclear Magnetic Resonancing) and large-diameter sidewall coring. If there are no hydrocarbon shows and an obvious water gradient from the LWD logs then a VSP survey may be run before the well is plugged and abandoned. If required, the VSP survey will be undertaken from the MODU and will be completed within a 24-hour period.

The requirement for a re-spud has caused a time delay to the drilling programme and it is now expected that the MODU duration on the well be 140 days.

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

It is not considered to be likely that the project will be affected by natural disasters. 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. Other than the matters considered further below, there is not likely to be any significant impact of 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 proposed drilling project is located in block 3/24c and is located approximately 189 km east of the nearest Scottish coastline and approximately 17 km west of the UK/Norwegian median line. The water depth in the vicinity of the proposed North Eigg well is approximately 110 m. Water depths within the area vary from 103.4 m Lowest Astronomical Tide (LAT) in the northeast to 114.6 m LAT in the southeast.

The seabed is characterised by an area of flat relief with measured gradients less than 1 degree. Sediments are relatively uniform across the survey area, predominantly comprising of silty fine to fine sand with patches of coarse sand, shell fragments and gravel. Occasional outcrops of clay are noted.

Tidal data closest to the proposed N. Eigg exploration well indicate that the maximum tidal velocity in the vicinity of the proposed well location are 0.5 and 0.2 metres per second (m/s) respectively for spring and neap tides, with a mean spring tidal range of 1.21 m. The mean annual significant wave height is 2.6 m.

Prevailing winds are southerly, predominating from the south-east but also from the south.

Benthic surveys observed the two biotopes 'Deep circalittoral sand' and 'Deep Circalittoral Coarse Sediment', which is typical of this area of the North Sea. Baseline survey data reported 9,756 individuals representing 240 taxa acquired at 17 environmental stations, as sampled from the seabed. The infauna consisted of five



major taxonomic groups: Annelida (Polychaeta), Arthropoda (Crustacea), Mollusca, Echinodermata and "Others". The "Other" category comprised ten taxa, of which four were from the phyla Cnidaria (sea anemones and sea pens), two from Sipuncula (peanut worm) and one each from Platyhelminthes (flatworms), Nemertea (ribbon worms), Annelida Clitellata and Phoronida (horseshoe worm). Polychaete worms were the most abundant group, which is typical of North Sea sediment. Epifauna was sparse at all environmental stations, primarily consisting of Annelida (Polychaeta, *Serpula vermicularis*, *Lanice conchilega*, *Spirobranchus triqueter*), Brachiopoda (*Terebratulina retusa*), Bryozoa (*Reteporella beaniana*), Cnidaria (*Actinaria*, *Alcyonium digitatum*, *Bolocera tuediae*, *Caryophyllia smithii*, *Hormathia digitata*, *Urticina* sp., *Cerianthus lloydii*, *Virgularia* sp., *Pennatula phosphorea*), Crustacea (*Caridae*, *Pagurus* sp., *Macropodia* sp.), Echinodermata (*Asterias rubens*, *Astropecten irregularis*, Asteroidea, *Echinus acutus*, *Echinocardium* sp., *Spatangus purpureus*, Ophiuroidea, *Psolus phantapus*), Hydrozoa (*Tubularia indivisa*), Mollusca (*Bivalvia*, *Gastropoda*, *Aporrhais pespelecani*, *Scaphopoda*, *Calliostoma zizyphinum*, Polyplacophora), Porifera (*Antho involens*), Chordata (*Tunicata*, *Gobiidae*, *Pleuronectiformes* sp., *Platichthys flesus*) and one occurrence of Polynoidea. In summary, the macrofaunal community recorded at N. Eigg during the baseline survey was generally comparable to previous surveys in the wider area and typical of the region.

The seapen *Virgularia* sp. was present at most of the stations investigated, however the densities observed and the rare presence of faunal tracks and/or megafauna did not initially indicate the presence of seapen and burrowing megafauna habitats in the area, defined as a threatened habitat under OSPAR (2008) (GEL, 2013). However, JNCC advice set a megafaunal burrow density threshold (greater or equal to 0.2 m²) which is considered to demonstrate the presence of the OSPAR habitat Seapen and burrowing megafauna communities. So whilst the N. Eigg baseline survey concluded that the presence of faunal tracks was rare and did not indicate the presence of seapen and burrowing megafauna habitats in the area, the data could not be used to make a definitive quantitative assessment of the abundance of megafaunal burrows and therefore Serica has assumed that the habitat could be considered present.

The ocean quahog (*Arctica islandica*) is a bivalve species that is protected under the OSPAR Commission due to its inclusion on the OSPAR list of threatened and/or declining species in the Greater North Sea area as a priority species (OSPAR, 2008). There is evidence of ocean quahog presence in the vicinity of the North Eigg prospect, with a total of 33 juvenile individuals of *A. islandica* found distributed across all environmental stations (with the exception of two). However, the area is not designated as a conservation site for this species.

Cod, haddock, Norway pout, sandeel and whiting all spawn within the vicinity of the proposed operations but only sandeel spawn within the proposed project window, between November and Feb. As benthic spawners, there is a potential effect if the seabed is significantly impacted.

No other Annex I habitats or Annex II species, OSPAR threatened and/or declining species and habitats or UK Biodiversity Action Plan priority habitats and species were



observed within the survey area. Proposed operations do not take place within an offshore marine protected area. The closest MPA to the proposed N. Eigg well is the Pobie Bank Reef SAC, located approximately 94 km to the west. The project is in the Scottish area's Nation Marine Plan.

Most recent data listed beaked whales (all species), minke whales, white-sided dolphins and harbour porpoise, as present in the area, with the latter species recorded as the most abundant cetacean in the area. Other species were recorded in the area. Relative cetacean abundance was noted as low or very low density for this area.

The distribution of both grey seals and harbour seals in the vicinity of the proposed North Eigg well location is expected to be very low.

The most abundant species present in Block 3/24 are fulmar in the breeding season and over winter, and guillemot during the post breeding dispersal period. Seabird vulnerability in the vicinity of the proposed North Eigg location is very low throughout the year, with no data available for May and November.

There is a moderate density of existing oil and gas activity in the vicinity of the proposed North Eigg well location, with the nearest surface offshore infrastructure being the Frigg platform (TotalEnergies) at approximately 39 km to the southeast. A number of pipelines cross the area including the 'active' Rhum to Bruce condensate pipeline PL2091 (Serica Energy), and the 'active' Nuggets NGE to Nuggets N3 gas line PL1989 (TotalEnergies) both at a distance of about 7-8km. A total of nine wells have previously been drilled in UKCS Block 3/24 since 1974 with only one shut in and the remaining eight having been fully abandoned. The proposed block lies within a Ministry of Defence training area, although MOD have been notified of operations. There are no planned, consented or operational wind farms within the Block 3/24 or in the surrounding waters.

The most dominant commercial fish species landed (by weight) included herring, haddock, cod and mackerel. Haddock was the greatest component to the fishery in terms of revenue. The project area is primarily used for demersal fishing and the fishing effort in the area is rated high, however, the immediate area surrounding the N.Eigg location is much lower than the surrounding region. Shipping in the area is considered to be low, with survey identifying 117 vessels at the closest point of approach of 2.17nm. There are no charted wrecks located within the vicinity of the proposed North Eigg well. The closest wreck is 500 m west of Block 3/24, in Block 3/23. There are no other sites, or objects of archaeological importance identified in the area.

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.

Other than the matters considered further below, there is not likely to be any significant impact of the project on population and human health.

There will be a temporary 500 m radius safety zone around the North Eigg well location which will exclude unauthorised access of vessels and prohibit access to fishing vessels for the duration of operations. Pre-laid anchors will be guarded by a vessel at all times.

During the drilling of the top-hole sections, WBM and cuttings will be discharged to the water column however, given sediment movement and the residual current in the vicinity of the North Eigg area is between 0.5 and 0.2 m/s (spring and neap tides), it can be expected that over time the recovery of seabed sediments should occur. WBM are water-soluble and are expected to dissolve, dissociate and disperse during settlement through the water column. A chemical risk assessment concluded that chemical discharges are not expected to result in a significant environmental impact. In addition, it is predicted that most of the cementing material will remain downhole with discharge to the environment only occurring when the conductor is cemented back to the seabed and when the cement unit is cleaned at the end of the cementing operation. A small area of the seabed will be impacted when cementing the conductor back to the seabed, however, this is very small in comparison to the surrounding available seabed and therefore the impact is considered not to be significant.

There is evidence of ocean quahog in the vicinity of the North Eigg prospect, however, this species is not expected to be significantly impacted at a population level by the proposed operations as any impacts would be highly localised. Sparse sea pens were identified across the survey area but quantitative data on burrow density was not discernible from the survey data collected and so this area could not be dismissed as potential habitat. The impact assessment was made on the precautionary basis that it met such criteria. Whilst there is theoretical potential for such habitat to be damaged, particularly by anchors and chains, recovery of the habitat is thought to be high and the area impacted is small and discrete. Larvae are pelagic in any case, and would settle on unimpacted suitable habitat considered to be available in the immediate vicinity. No Annex I habitats have been recorded within the area. Therefore, there are not likely to be any significant effects.

Sandeel eggs are demersal and are laid in sticky clumps on clean, sandy sediments therefore hatching success and recruitment can be affected by activities that disturb seabed sediments. Whilst the North Eigg survey sediment samples showed an overall sand dominance with small amounts of silt and clay content, sandeels prefer slightly shallower water depths (20 - 100 m) than those found across the North Eigg area. Therefore, while sandeels and sandeel spawning grounds may be present, the proposed well location is unlikely to offer prime habitat for this species. Furthermore,



they spawn over a large area of the North Sea and are unlikely to be impacted at a significant population level due to the very localised nature and timing of operations.

Due to the mitigation measures in place and the highly localised area impacted, there are no significant effects expected from the proposed activities on marine mammals. Underwater noise emissions from the explosive cutting tools required to cut the stuck drill string are unlikely to result in a significant effect due to the depth below the mud line that the explosives will be used (260 ft - 360 ft below mud line) and the charge size (0.5kg) and noise is anticipated to be attenuated downhole, with no detections above background levels anticipated in the water column.

There are no expected transboundary effects from the drilling operations at the North Eigg well location. The nearest boundary (UK/Norway Median Line) is located approximately 17 km east of the operations. It is not considered likely that any planned operational discharge to the marine environment will be detectable at this distance from the well location.

The main spill risk associated with the drilling of the proposed North Eigg well is a large spill of condensate occurring from loss of well control, which is deemed highly unlikely. The vast majority of the condensate spill would evaporate naturally and the maximum mass of condensate predicted to beach in such an event, is modelled as 66.5 tonnes, if no intervention. Furthermore, in the event of a blowout incident from the proposed North Eigg well, the Wild Well cap is deemed suitable. In the event a relief well is required, the Wild Well cap would be deployed from a single vessel and drilling of a relief well would then be available as a secondary well control, taking an estimated 147 days to drill. In the case of an accidental diesel release from the PBLJ, it is expected to evaporate quickly due to its very high level of light ends. Both spill scenarios are therefore not expected to present a significant risk.

The emissions associated with the project result from power demand for the proposed operation (including ancillary works). It is expected the emissions will be rapidly dispersed and are not likely to have a significant impact. Reduced project duration has been considered during project design, as well as limiting project requirements to the planned well-logging scope rather than a well-test to minimise emissions from the project. Contractor partnerships seek to increase energy efficiency and reduce fuel usage, which has demonstrated results in reducing emissions. Operations will be optimised to minimise emissions through specific measures (e.g. efficient logistics). These operational and planning measures combined significantly reduce emissions to a level of negligible contribution.

Drilling operations will be conducted from the PBLJ MODU such that there is a negligible and temporary impact on the seabed from the drilling rig footprint. The drilling operations are in accordance with the National Marine Plan for Scotland's objectives and policies. It is considered that the drilling of the North Eigg well is not likely to have a significant impact on 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:

N/A