



Offshore Petroleum Regulator
for Environment & Decommissioning

D/4263/2021

[REDACTED]
Ithaca Energy (UK) Limited
Hill of Rubislaw
Aberdeen
AB15 6XL

20 January 2022

Dear [REDACTED]

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

**NOTICE UNDER REGULATION 14(5) – NOTIFICATION OF THE DECISION TO
AGREE TO THE GRANT OF CONSENT**

Abigail Field Development

On 2 July 2021, Ithaca Energy (UK) Limited submitted an Environmental Statement (ES) for the above project to The Offshore Petroleum Regulator for Environment and Decommissioning (“OPRED”). OPRED acts on behalf of the Secretary of State for Business, Energy and Industrial Strategy (“the Secretary of State”). Following review of the ES and representations received, Ithaca Energy (UK) Limited was requested to provide further information, which was provided to OPRED on 26 October 2021.

OPRED has now completed its review of the ES, the representations received relating to the environmental effects of the project and the further information provided. In accordance with Regulation 14(5), we hereby notify you that the Secretary of State agrees to the grant of consent for the project.

A copy of the decision, which sets out the conclusion on any significant effects of the project on the environment, any conditions attached to the agreement to grant consent, and a description of any features of the project or measures envisaged to avoid, prevent, reduce or offset any significant adverse effects on the environment is appended below.

The Oil and Gas Authority (OGA) was notified of the decision to agree to the grant of consent on 17 January 2022.

**Department for Business, Energy
& Industrial Strategy**

Offshore Petroleum Regulator for
Environment & Decommissioning
AB1 Building
Wing C
Crimon Place
Aberdeen
AB10 1BJ

Tel [REDACTED]

www.beis.gov.uk
BST@beis.gov.uk

Judicial Review

A person aggrieved by the grant of consent for a project may apply to the Court for leave / permission to apply for judicial review of the relevant decision or decisions. The United Kingdom has three separate legal systems; one each for England and Wales, Scotland and Northern Ireland. The rules for any application for leave / permission to apply for judicial review may vary depending on where that application is made, but it is important to note that there are time limits for making any application and judicial review may only be available if the applicant has standing / a sufficient interest in the subject matter of the application. Further information about the process for seeking judicial review can be obtained from the Administrative Court (for England and Wales), the Court of Session (for Scotland) or the Judicial Review Office (Northern Ireland).

Yours sincerely,

[Redacted Signature]

.....
[Redacted Name]

Environmental Manager
The Offshore Petroleum Regulator for Environment and Decommissioning
For and on behalf of Secretary of State for Business, Energy and Industrial Strategy

DECISION TO AGREE TO THE GRANT OF CONSENT



Offshore Petroleum Regulator
for Environment & Decommissioning

**The Offshore Oil and Gas Exploration, Production, Unloading and Storage
(Environmental Impact Assessment) Regulations 2020**

**Regulation 14(3)
Secretary of State Decision**

Ithaca Energy (UK) Limited

Abigail Field Development

To: Jonathan Ward, Director Environmental Operations, OPRED

Decision Recommendation:

That you agree, on behalf of the Secretary of State, to the grant of consent by the Oil and Gas Authority (OGA).

As set out further below, taking into account the relevant considerations, I have concluded that the project will not have any significant effects on the environment and therefore there is no requirement for conditions to be attached to the grant of consent.

From: [REDACTED]
Environmental Manager

Date: 07 January 2022

ES Title:	Abigail Field Development
Developer:	Ithaca Energy (UK) Limited
Consultants:	Hartley Anderson Ltd
OGA Field Group:	Central North Sea
ES Report No:	D/4263/2021
ES Submission Date:	2 July 2021
Block No/s:	29/10
Project Type:	Oil and gas field development
OGA Reference No:	PCON/5972/0

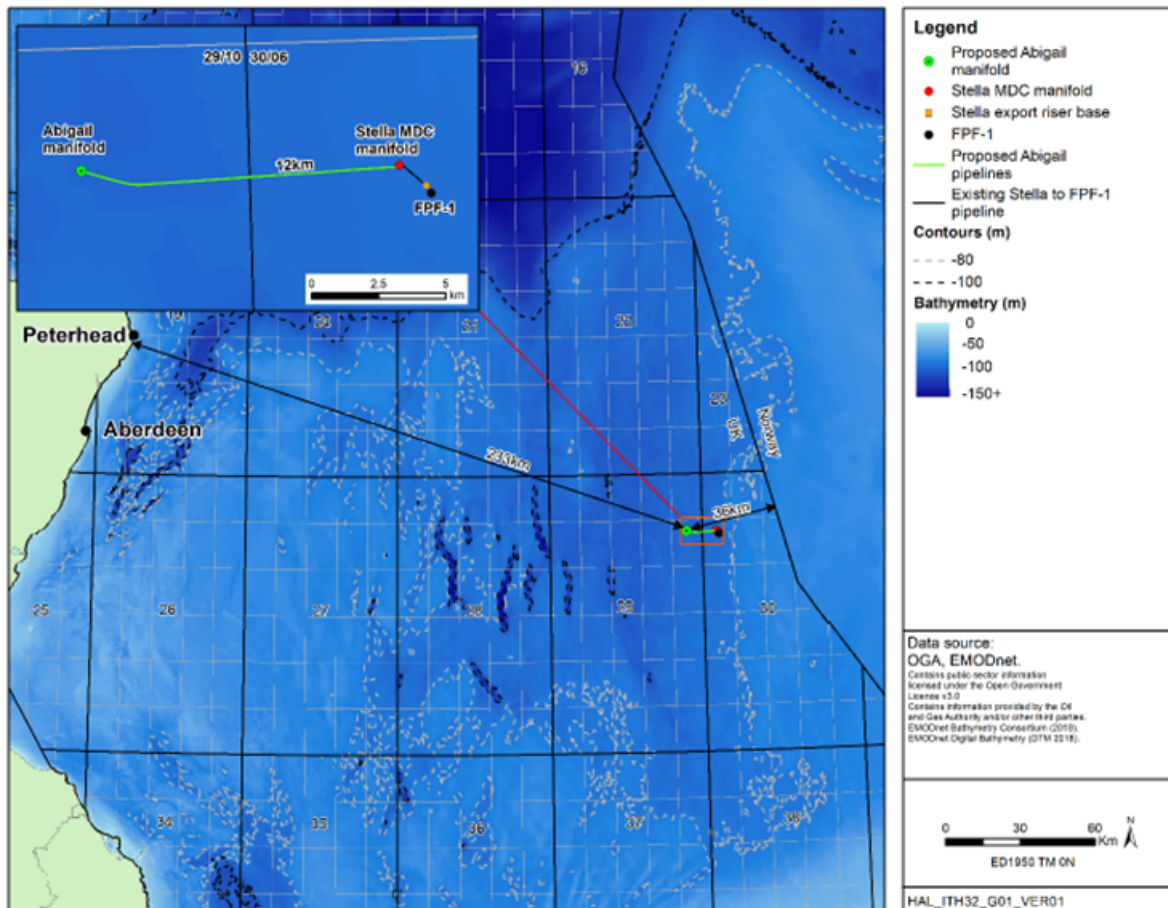
Project Description

The Abigail field contains two reservoirs, which contain oil and a rich gas condensate fluid. The development proposal is to develop the field which will consist of up to two wells (with contingency sidetracks) tied back to the Stella FPF-1 installation (FPF-1). The proposed project will be located in the Central North Sea, approximately 233 km from Peterhead and 36

km from the UK/Norwegian median line. Water depths across the Abigail area are between 89-92 m.

The Abigail field will be developed in two phases. The first phase will involve the conversion of an existing appraisal well into a new production well. A new piled manifold will also be installed at the Abigail drill location with a new SSIV (subsea isolation valve) installed close to the FPF-1. A new 12km, 6"/10" pipe-in-pipe export pipeline, gas lift pipeline and services umbilical will be installed in a single trench and will be protected by mechanical backfill of sediment and protective material (rock, mattresses and grout bags). The second phase will be contingent on the performance of the first well. The second phase will only be feasible in a high production case, and if this case is realised, a new production well will be drilled at the Abigail drill centre. This well will tie into the new Abigail manifold using tie-in spools and jumpers, with some protective material (mattresses and grout bags) added where required.

The Abigail fluids will be co-mingled with the hydrocarbons from the Stella and Harrier fields at the Stella Main Drill Centre manifold close to the FPF-1. Processing of Stella, Harrier, Vorlich and Abigail hydrocarbons will be undertaken on FPF-1, with the export of all gas and oil via the existing infrastructure. Gas is exported via the CATS pipeline (Central Area Transmission), whilst oil is exported via the Norpipe system.



There will be no major modifications required to FPF-1 as a result of the tie in of the two Abigail wells, with minor modifications to control systems to enable the supply of power and control to the Abigail manifold, and to the Produced Water (PW) system to cope with the varying volumes of produced water. The project schedule indicates that Phase 1 will take place from Q2 - Q3

2022 with first oil expected Q4 2022. Phase 2 (if high production case is realised) is scheduled for Q3 – Q4 2024. The Abigail field life is 8 years.

Key Environmental Impacts

The Environmental Statement (ES) identified and discussed the following as having the potential to cause an environmental impact:

- Effects on users of the sea (e.g., commercial fishing & shipping) from the physical presence of temporary and permanent infrastructure;
- Effects on the sediment, seabed habitats, fauna and flora from seabed disturbance caused by the placement of temporary and permanent infrastructure;
- Effects on water quality, flora and fauna from discharges to sea caused by drilling, commissioning and operational produced water;
- Effects on marine mammals and fish from underwater noise caused by piling of infrastructure and vessel traffic;
- Effects on the water quality, protected species and habitats, fauna and flora from an accidental event resulting in an oil release; and
- Effects on the local air quality and climate from the discharge of atmospheric emissions generated from the project.

Key Environmental Sensitivities

The ES identified the following environmental sensitivities:

- **Fish and shellfish:** The project area lies in a low intensity spawning area for cod, whiting, plaice and sandeel. The area is a low intensity nursery ground for blue whiting, herring, mackerel, whiting, sandeel, ling, European hake, plaice and monkfish, and a high intensity nursery ground for cod. Norway Pout and haddock also use the area as nursery grounds. Sandeels are known to spawn at low intensity in the Abigail area and are a Priority Marine Feature (PMF).
- **Seabirds:** Multiple species of seabird could be present at the project area in various levels of abundance, dependent upon the season. Northern fulmar, black-legged kittiwake, common guillemot are widespread and numerous for the majority of the year. Atlantic puffin and razorbill are present in large numbers in late summer, whilst herring and great black backed gulls are abundant within winter. Sensitivity of seabirds in the project area is predominantly low throughout the year, with the exception of February, May and June when sensitivity is medium.
- **Protected habitats and species:** There are no Special Areas of Conservation (SAC) within 40 km of the project area. The closest SAC is the onshore Buchan Ness to Collieston Coast SAC, which is approximately 232 km west of the project area. This has been designated due to the presence of vegetated sea cliffs which supports a number of species. The closest offshore SAC is Dogger Bank SAC, which is approximately 157 km to the south of the project area. This SAC has been designated for Annex I sandbanks which are slightly covered by sea water all of the time. The Fulmar Marine Conservation Zone (MCZ) is approximately 20km to the south of the project area and is designated for the presence of subtidal mixed sediment, subtidal sand, subtidal mud and the Ocean Quahog aggregations. There are no Annex I habitats in the project area.

- European Protected Species and pinnipeds: Cetaceans such as harbour porpoise, white beaked dolphins, minke whale and Atlantic white-sided dolphins are likely to occur in the project area. Harbour porpoise are sighted throughout the year but peak from June to October. White beaked dolphins are less abundant and sighted more frequently from July to October. White sided dolphins have been recorded in the Abigail project area but in low numbers. Pinnipeds such as the grey seal and harbour seal are known to use areas off the east coast of Scotland. The harbour seal primarily stay within 50km of the coastline whilst grey seals use offshore areas (up to 100km from the coast). Both species of pinniped may occur in the project area in low densities.
- Other users of the sea: Commercial fishing effort in the project area has been assessed as “low” representing less than 1% of the total UK fishing effort. Fishing effort varies with the seasons, with a higher fishing effort seen in January and August, with a reduced effort in March, June and November. The main species landed are dominated by shellfish, plaice and lemon sole.

Shipping density in the area is moderate. There are 27 shipping routes (passing within 10nm of the Abigail area) used by an estimated 1600 vessels per year. Shipping traffic consists of mainly offshore vessels (approximately 49%), followed by cargo ships and tankers. The project is not situated within a military practice and exercise area, and there are no conditions required by the MoD. The project area does not cross any telecommunication cables, and the North Sea Link subsea power cable passes 31km to the south of the project. The closest active telecommunications cable is the TAMPNET cable, located 15km from the new Abigail manifold. The new 12km pipeline to be installed will cross the Ithaca owned Greater Stella 10” gas export pipeline, whilst the nearest pipeline to Abigail is the Shearwater to Bacton (SEAL) pipeline, approximately 2km to the west of the Abigail wells.

The project area sits within a well-established location for offshore oil and gas infrastructure. The closest platform is the Jasime platform, situated approximately 20 km away.

There is no renewable energy associated infrastructure within the project area, with the closest lease area being >200km away.

The closest known potential wreck to the project area, is the Viking Anton, which is approximately 2.2km north-west of the Stella MDC. However, this has not been observed in any surveys undertaken by Ithaca, and according to a database search, it is thought unlikely a wreck, but a manmade object about 10m in length on the seabed.

- In-combination, cumulative and transboundary sensitivities: The project area is adjacent to the UK/Norway median line, which is 36km to the west of the project area. The installation of infrastructure (siting of the 2 wells, the manifold and associated 500m safety zone and the 12km pipeline) will reduce availability of the natural environment to activities such as fishing, but this will be offset by trenching and burying the pipeline so that fishing activities can continue in those locations. No other oil and gas construction activities are planned in the project area at the time of installation and commissioning of the Abigail project. The project will add cumulatively to the produced water discharge and atmospheric emissions at FPF-1.

Public Consultation(s)

The ES and the summary of the project was subject to public consultation, for which the public notice was published on 14 July 2021 and ended on 16 August 2021. However, as Norway

had been included as part of the consultation process, Regulation 13 applied, and part of the public notice was incorrect. The developer was requested to republish the public notice with the Regulation 13 wording included. The second public notice was published correctly on 23 July 2021 and ended on 25 August 2021. There were no public representations received.

Further information was requested on 6 October 2021 under a Regulation 12(1) notice. The further information provided by the developer was not directly relevant to reaching a conclusion on whether the project is likely to have a significant effect on the environment and was therefore not subject to further public notice.

Consultation with Other Authorities

The Joint Nature Conservation Committee, Ministry of Defence, Northern Lighthouse Board, Marine Scotland, and the Maritime Coastal Agency were consulted on the application for consent and the ES submission. All the consultees submitted responses and none of the consultees had objections to the ES.

Consultation with other Countries

Given the location of the project proposal, Norway was contacted to offer the opportunity to participate in the EIA process. However, no response was received and therefore they did not participate in the EIA process.

Conclusion on the significant effect of the project on the environment

I have reviewed the following:

- The ES;
- The further information obtained under Regulation 12 as summarised above;
- The representations received from other authorities as summarised above.

Taking those matters into account, I have concluded on behalf of the Secretary of State that this project will not have any significant effects on the environment:

Physical presence of temporary and permanent infrastructure

The physical presence of the drilling rig and supporting vessels whilst the project is under construction, will displace other users of the sea, which is predominately shipping and fishing. These activities have been described above as low to moderate respectively within the project area. There will be additional temporary exclusion zones (500m safety zone centred on the drilling rig) during construction, which will also exclude vessels from the project area. A new 500m safety zone will be centred on the Abigail manifold which will exclude vessels for the life of the field (approximately 8 years), however vessels will not be excluded from the pipeline area. The safety zone associated with the Abigail manifold will remove a small area from availability to fishing vessels. Fishing effort in the area is considered low and mostly undertaken with demersal gear. Snagging of the fishing gear is unlikely as the project area is not subject to vigorous currents and has low sediment mobility. It is therefore unlikely that the pipeline will be scoured and freespans able to develop. I agree with the assessment, that the impacts resulting from the physical presence of drilling rigs, vessels and associated infrastructure, will not have a significant effect on the environment.

Placement of infrastructure on the seabed

The ES provides two options for drilling the wells, a Mobile Drilling Unit (MoDU) or a semi-submersible drilling unit (semi-sub). A semi-sub rig will be used to drill the first well, while it is currently unknown what type of rig will drill the second well. The inclusion of both scenarios allows for a comparison of seabed disturbance between the 2 drilling rigs and includes a worst-case scenario. The disturbance to the seabed from these rigs is the drill rig footprint of the spud cans from the MoDU, and the anchors and chains from the semi-sub.

Permanent infrastructure will be placed on the seabed for the lifetime of the field, and these will include protective material (mattresses, grout bags and rock), manifold, SSIV and tie in spools and jumpers. The seabed will also be disturbed when trenching the pipeline system. Taking all of the above into account, the worst-case permanent area of impact to the seabed is expected to be 0.306 km². The contributing factors to the permanently impacted area are subsea infrastructure and protection material (assessed as contingency worst case). Pipelaying will cause displacement and resuspension of sediments, for the trenching and backfilling of the trench (with the displaced sediment).

The first well is a re-entry of an existing well, with the upper sections already completed. Low Toxicity Oil based Mud (LTOBM) will be used to drill the new sidetrack for the well, with all LTOBM returned to the surface and shipped to shore for treatment. The second well will be drilled using Water Based Mud (WBM) for the upper sections of the well, and Oil Based Mud for the lower sections. The latter will be shipped ashore whilst the WBM and cuttings will be discharged to the seabed. The risk to the seabed from the cuttings is a smothering effect which is the dominant mechanism of ecological disturbance, however this is expected to be localised and of short duration.

The widespread introduction of hard substrate (deposits of protective material such as rock and mattresses) can change the local seabed type to one that adversely affects species with a sand/gravel sediment habitat preference. The hard substrates introduced to the seabed are expected to be colonised but are not expected to result in a physical change to another habitat type. In the wider regions there are hard substrate present on the seabed, such as cobbles, boulders and shell fragments. The seabed around the project and wider area does contain harder substrate, and it is not expected that the introduction of protective material will change the seabed type.

The infauna in the project area have short lifespans and high recovery rates to disturbance, whilst the visible fauna on the seabed in the area is relatively sparse. It is expected that the locations disturbed will be rapidly recolonised, most likely by a combination of opportunistic species and the species within the project area as the benthic species are considered resilient to sediment disturbance and smothering. There are no Annex 1 habitats within the project area.

Sandeels have low intensity spawning in the proposed project area, however the site-specific survey data suggests that the habitat in project area is not conducive to sandeel spawning.

I agree with the assessment that there will be a temporary impact to the seabed, but these will be insignificant in terms of environmental effects given the ability of the environment to recover. Sediments will be displaced, however this will be short term and temporary, with the benthic community able to recover over time. The discharge of drill cuttings and mud into the water column will cause short term smothering effects over a small area around the wellhead. The species found in the area are considered resilient to the effects of sediment disturbance and will be able to recolonise quickly. I would therefore agree with the assessment that the cumulative impacts of the project on the seabed will not be significant on the environment.

I agree with the assessment that the project impacts resulting from the placement of infrastructure on the seabed will not have a significant effect on the environment.

I agree with the assessment that that the impact on spawning sandeels will be insignificant due to their low numbers found in the project area, the silt and clay content of the sediments evidenced in the area, and the depth of water.

Discharges to sea

There will be limited discharges to sea, with the majority of the discharges from the drilling of the wells and from produced water discharge. Water Based Muds and the associated cuttings from drilling the top section of the second well will be discharged to sea. Previous cuttings modelling exercise was undertaken to assess the footprint of deposition from drilling in the Greater Stella Area. Deposition was found to emulate the natural erosion and deposition rate recorded in the North Sea. Given the species and habitats in the project area, and the resilience to smothering and good recovery rates, I agree with the assessment that the impacts from the discharge of drilling muds is insignificant.

There will be limited discharges of chemicals used during the drilling phases and water quality and marine organisms were identified as key receptors. The impacts to water quality are likely to be localised and short term, given the short timeframe for the drilling activities and the selection chemicals that are low risk to the environment. I agree that due to the dilution and dispersion within the water column, any deterioration of water quality will be localised and short term, and I agree that the impact to water quality and marine organisms will be insignificant.

The increase in the volume of Produced Water received at the FPF-1 as a result of the Abigail wells is significant, which I agree with. The volume of PW received at FPF-1 (during operational phase) will increase PW discharge volumes. It has been confirmed that there is operational capacity to cope with the additional volume, but also to treat the PW to an oil in water standard of 20 mg/l, which is below the OSPAR standard of 30mg/l. Clarification was provided by the developer for how they would meet the lower OIW standard. An assessment of the PW system has been undertaken and with adjustment to level settings within the separator system, the predicted increase in PW can be treated within the current system. Slight modifications might be required to control systems and pipework to improve operational capability. No additional chemicals will be used to treat the PW as a result of the fluids from the additional wells. PW discharge has been modelled at the predicted higher volume rate, with the results showing that the impacts are localised, and with rapid dilution expected, the impacts beyond 100m are negligible. Given the low spawning activity and low nursery activity of the fish species in the area, I would agree that there is no significant impact to fish species.

I conclude that the impacts from discharges to the sea from the project will not have a significant effect on the environment.

Atmospheric Emissions

Local air quality and climate change were the primary receptors considered in relation to atmospheric emissions from the project. Consideration was given to supporting the UK Government's commitment to achieving net zero greenhouse gas emissions by 2050, whilst supporting other industry commitments and initiatives which have been developed to facilitate progress towards the target of net zero. The Developer is working towards the Government's net zero target, and has set up an Emissions Strategic Working Group. Reduction targets will be set for all assets and not just at FPF-1, along with emissions key

performance indicators (KPIs). Each field and asset will have a greenhouse gas management plan and strategy, with a view to reducing emissions. The developer also has an annual process that reviews environmental performance, and will assess emissions reductions on all assets.

Atmospheric emissions from the construction phase of the project will be related to fuel combustion from the mobile drilling rig (jack up or semi-sub) (both options were discussed and assessed as the final selection has not been made), supply vessels, guard vessel, helicopter traffic and any flaring activities during well clean up. The selection of smart completion well technology for sidetracking the existing appraisal well (first well) will reduce the time on location for the drilling rig, thereby reducing the emissions to atmosphere. The estimated CO₂ (e) emissions from the construction phase of both wells, including well clean up, are very small, <0.25% of UKCS 2018 emissions.

The impact on production and processing from the additional wells from the project at the host installation, the FPF-1, were also assessed. Power generation is the main source of emissions from the FPF-1 accounting for around 87% of emissions. Additional power will be required to process the hydrocarbons from the Abigail wells, which is estimated to account for an additional 2-3% of total emissions from FPF-1. No additional flaring and venting will be expected as a result of the tie-in of the 2 wells, with the flare gas ignition package working to ensure that the Greater Stella Area minimum flaring philosophy is continued.

Estimated emissions intensity of production is measured at the FPF-1, and the introduction of the Abigail wells allows for a lower emissions intensity due to the higher level of production relative to the incremental fuel gas use at the power generation units. The contribution of CO₂ (e) from the Abigail project (which includes the development of both wells and operational emissions), would represent an increase in emissions of 0.56% of the emissions reported by the oil and gas sector in 2018.

The developer has stated that due to the remoteness of the FPF-1 (233km from shore), the electrification of the FPF-1 is economically unfeasible in comparison to the field life of the Abigail wells (8 years). There are no nearby operational renewable energy sources (closest renewable site is a demonstrator site >200km away) and the additional emissions from the project are <3% of the total emissions from FPF-1.

I agree with the conclusion that the additional atmospheric emissions will contribute to both localised and short-term increase in atmospheric pollutants. The field life of Abigail is 8 years and there is a short-term increase in emissions associated with the project. The FPF-1 asset has a flare reignition package which minimises the emissions from flaring, which will ensure that the Greater Stella Area minimum flaring philosophy is continued with the tie in of the Abigail field. Taken into the wider context of UK atmospheric emissions, I conclude that there will be no significant effect on the environment.

Underwater noise

The primary source of noise during the project results from the driving of four pin piles to secure the new Abigail manifold. The piles are 22m long and 0.63m in diameter. Installation of all 4 piles is expected to be completed in 1 single day, with each pile taking around 2-3 hours to pile to penetration depth. Each pile is installed using a maximum hammer energy of 90kJ and it is the noise produced by the hammer driving the piles that is the main factor influencing sound levels, along with diameter and surface area of the pile.

Marine mammals and fish are the main receptors of underwater noise. Although there is anticipated to be a low to moderate density of mammals in the area, the sensitivity to noise was assessed in the ES. The piling of the manifold has assumed a precautionary source

level of 200dB re 1uPa @1m which is in accordance with empirical measurements at referenced pile driving studies. Sound levels reduce the further away from the source, with levels of 150-160dB re 1uPa around 500m from the piling area.

The auditory injury criteria for low, high and very high frequency cetaceans (minke whale, white beaked dolphin and harbour porpoises) were assessed along with the auditory injury criteria for grey seals. Of the species likely to be present within the project area, harbour porpoise has the lowest threshold criteria for the onset of PTS (Permanent Threshold Shift) and TTS (Temporary Threshold Shift). Estimated received (impulsive) noise levels from manifold piling will drop below both the PTS and TTS injury criteria for harbour porpoise within 500m of the piling location. For non-impulsive sounds (cutting of piles, rig operations, and vessel movements), the sound level pressures, which can range from a few hundred metres to a few kilometres from the area of operations, will also be below the PTS and TTS threshold criteria for harbour porpoise.

The potential injury to fish was also assessed, and the sound levels considered to have a potential to cause injury are below the auditory criteria for fish. The injury criteria for fish >207 dB re 1uPa (peak).

The developer has stated that JNCC mitigation guidelines will be followed during the piling operations, which includes the use of soft starts. Given the low density of cetaceans in the project area, and the fact that the PTS and TTS will not be breached out with 500m from the manifold area, the risk of hearing damage to any species of cetacean or fish is negligible. I agree that the proposed project will not have a significant impact resulting from underwater noise.

Accidental events

The ES assessed worst case spill scenarios, which are an instantaneous release from the pipeline, hydrocarbon release from the re-entry of the first well and a well blow out.

In the case of an accidental event, the pipeline release modelling estimated that there was a 5-10% probability of oil crossing the median line, with the shortest time being 12 hours (March – May). There is also a 1-5% probability for shoreline oiling (Scotland (Grampian), Norway and Denmark), the shortest time being 12 days (Grampian (March – May) and Norway (September – November)) and the maximum accumulation onshore after 20 days estimated to be 0.1 tonnes.

Using the results of the model, and due to the small volume of hydrocarbons involved, it was concluded that the loss of hydrocarbons from the pipeline will not have a significant impact on the environment and is not considered further.

The re-entry of the first well to be drilled, is currently suspended with 2 deep barriers and inhibited seawater. The debris cap which sits above the wellhead will be removed, and the BOP (blow out preventor) will be latched to the wellhead. This standard operation is unlikely to lead to a change in barrier status and the risk of a well blow out is considered to be low.

In a well blow out scenario, modelling was undertaken seasonally, and there is a 90-100% probability that oil will cross the Norwegian median line in less than 18 hours in all seasons. It also predicts that without an emergency response, oil has the potential to beach on the coastlines of the UK and a number of other countries (Norway, Denmark, Sweden, Germany and the Netherlands). Grampian, Tayside/Fife and North-East of England have the highest probability of shoreline oiling (20%) with Norway having the highest probability of shoreline oiling outside of the UK (70-80%).

The impact from a well blow-out may result in a Major Environmental Incident (MEI) due to the potential impacts on protected sites and species with an oil thickness $>0.3\mu\text{m}$. The UK SAC site of Berwickshire and North Northumberland Coast has been scored as sensitive due to the grey seal population and the pupping season coinciding with a 10-20% probability of shoreline oiling in March - May. An oil spill reaching the Berwick to St Mary's Marine Conservation Zone (MCZ) could affect the qualifying feature (common eider), as this species is highly vulnerable to oil spills, although the probability of oil reaching the area is 5-10% during December – February, and 10-20% during March – May.

There are a number of aquaculture sites along the eastern coast of the UK. The site with the highest potential for an oil spill to reach it is Lindisfarne, which is farmed for oysters. Modelling indicated that oil however is not expected to beach at this site.

There are a number of SPAs along the north-east coast of the UK and some in adjacent states which have breeding seabird features. There is the potential for these mobile qualifying species of relevant sites to interact with waters where surface oil has the potential to meet or exceed $0.3\mu\text{m}$ in thickness. There is the potential that a well blow-out could affect these mobile species. However, seabird sensitivity in Blocks 29/10 and 30/06 and neighbouring blocks is low, for those months with data, with the exception of a small number of adjacent blocks scored as medium.

I agree with the conclusion that an accidental event, in this case a well blow out, has the potential to have a significant effect on the environment and may result in an MEI. The developer has therefore proposed key measures to avoid, prevent, reduce or offset any significant adverse effect on the environment from accidental events. These measures are set out below.

Features of the project or measures envisaged to avoid, prevent, reduce or offset significant effects.

As discussed above, the only impact identified as potentially having a significant effect on the environment is an accidental event, which in this case is a well blow out. The following key measures of the project are envisaged to avoid, prevent, reduce or offset any significant adverse effect on the environment from accidental events.

The developer has a number of measures in place to ensure that the risk of a well blow-out occurring is minimised. These preventative measures are:

- a) Well Examination Scheme – independent well examiners ensure there is a check on well design, construction, maintenance and operation
- b) Physical measures will be used when drilling the wells, such as a BOP (blow out preventor) and well barriers
- c) Communication and Interface Plan which includes actions, notifications, and roles and responsibilities of offshore personnel in the event of an oil spill
- d) Oil Pollution Emergency Plan which sets out arrangements for responding to incidents that may cause oil pollution
- e) Safety and Environmental Critical Elements are identified for maintenance which include valves which are in place to control failures
- f) Well Procedures and equipment to control the well in the event of a blow out, including a capping device or the drilling of a relief well.

Although a significant effect to the environment would be expected in the case of an unplanned, accidental well blow-out from an Abigail well, the mitigation measures and commitments in place above, will seek to avoid and/or reduce the unlikely impact as far as possible.

I therefore agree with the conclusion that a well blow-out does have the potential to significantly effect the environment, however, mitigation measures and commitments will be in place to reduce the risk of a well blow-out occurring, to as low a risk as possible

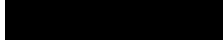

Decision on Conditions to the agreement of the grant of consent

No conditions should be attached to the agreement to the grant of consent.

Recommendation

I have set out above my conclusion on the significant effects of the project on the environment.

I recommend that the Secretary of State should agree to the grant of consent for this project because there are no significant effects on the environment.

  Date 07 January 2022
Environmental Manager
Offshore Petroleum Regulator for Environment and Decommissioning
For and on behalf of the Secretary of State for Business, Energy, and Industrial Strategy

Agreement decision

I accept the recommendation for the reasons given.

On behalf of the Secretary of State, I therefore agree to the grant of consent.

Jonathan Ward *Jonathan Ward* Date 07 January 2022
Director, Environmental Operations
Offshore Petroleum Regulator for Environment and Decommissioning
For and on behalf of the Secretary of State for Business, Energy, and Industrial Strategy.