Department of Energy & Climate Change

D/4130/2011

Iona Energy Company (UK) Limited (Iona)
Orlando Field Development
Environmental Statement (ES) Summary

Title:	Orlando Field Development Environmental Statement
Operator:	Iona Energy Company (UK) Limited (Iona)
Consultants:	Orbis Energy Limited
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Reviewer:	Inger Söderström
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Project Description

Iona propose to develop the Orlando Field located in Block 03/03a in the northern North Sea, approximately 127 kilometres (km) east north east of the nearest UK coastline (the Shetland Islands) and 17 km west of the UK/Norway median line. The field is located in a water depth of approximately 140 metres (m).

It is proposed to develop the Orlando Field by drilling up to two subsea wells, which will be tied back to the Ninian Central Platform, operated by CNR International Limited, via a new subsea manifold and a 10.8 km 8" production pipeline and associated electro-hydraulic and chemical umbilical. The pipeline and umbilical will be trenched and buried. The processed liquid hydrocarbons will be exported via the existing Ninian Pipeline System (NPS) to the Sullom Voe terminal on the Shetland Islands and the associated gas will be used for fuel on the Ninian Central Platform. Initially the field will be developed by re-entering the Orlando appraisal well drilled in 2011, with the second well contingent on the operational performance of the first well. If required, the second well will be drilled from the same drill centre.

The Ninian Central Platform will require minor modifications to receive and process the proposed Orlando fluids.

First oil from Orlando is anticipated in Q4 2014 and production is expected to continue until 2030 if the P10 production estimates are realised. Maximum estimated recoverable reserves are predicted to be in the range 9 to 13 million barrels of oil. All of the relatively small quantity of associated gas will be used as fuel..

Key Environmental Sensitivities

The Environmental Statement (ES) identified the following environmental sensitivities:

Fish Stocks: Norway pout, cod, haddock and saithe spawn in the area of the proposed development and it is also a nursery area for Norway pout, haddock, mackerel and blue whiting,.

Seabirds: Overall seabird vulnerability in the area is assessed as moderate, although it is high in January, March, July, September, October and November. For the remainder of the year it is either moderate or low, with no periods of very high vulnerability.

Annex II Species: Harbour porpoise have been recorded in the vicinity of the proposed Orlando Development, in medium numbers (1-10 individuals per hour of effort) during July, August and September, and low numbers during May. A number of additional cetacean species have been recorded in the area, e.g. minke whale and white-sided and white-beaked dolphins, with medium numbers recorded in July. As the area is approximately 127 km from the nearest UK coastline, neither grey nor common seals are likely to occur in significant numbers..

Annex I Habitats: Numerous small seabed depressions were observed throughout the area, but they were less than 0.3 metres in depth and further investigation did not confirm the presence of methane derived authogenic carbonate (MDAC) structures (potential Annex 1 habitat). The proposed development also lies close to a JNCC offshore area of search for stony reef, but further investigation concluded that there were no stony areas in the vicinity of the development that would merit designation as an Annex I habitat.

Protected sites: There are no offshore protected areas within 200 km of the proposed development and the nearest coastal protected areas of Fetlar and Saxa Vord and Valla Field Special Protection Areas are approximately 129 km from the Orlando Field. .

Other Users of the Sea: The level of fishing activity and shipping traffic in the development area is low.

Key Potential Environmental Impacts

The ES identified the following potential impacts and related mitigation measures:

Physical interference: Appropriate mitigation measures will be put in place to ensure that other users of the sea are aware of the proposed activities, e.g. 500 m exclusion zone around the MoDU and completed well, the use of standby vessels, and the dissemination of information via the Kingfisher Bulletin and Notices to Mariners. In view of the relatively low fishing and shipping activity in the area, the impact of the proposed development is considered to be insignificant.

Seabed disturbance: The drilling of up to two wells and the installation of the subsea infrastructure, including a Pipeline End Manifold (PLEM), a Subsea Isolation Valve (SSIV) and the proposed pipeline and umbilical, including a worst case scenario of the deposit of 363 concrete mattresses and up to 18,500 tonnes of rock for pipeline stability and 8,000 tonnes of rock at pipeline/umbilical crossings, will have a direct impact on the benthic community. However, the species composition and habitat is typical of the area, and only a very small proportion of the

local habitat will be impacted by the proposed operations. The benthic community and habitat are also expected to recover from the disturbance relating to the drilling and installation operations within a relatively short period of time.

Noise: A number of noise sources will be associated with the proposed operations, including noise from the drilling and infrastructure installation operations, in addition to the existing noise relating to the platform production operations, standby vessels and helicopters. Piling operations associated with the Orlando Development will be limited to the installation of the manifold and will take a total of 12 hours. Modeling indicates that the sound pressure levels are below those capable of causing Permanent Threshold Shift (PTS) in cetaceans or pinnipeds. Given the comparatively low occurrence of marine mammals, and the commitment to adhere to the JNCC guidelines, including the use of a trained Marine Mammal Observer, the risk to marine mammals is considered to be low.

Marine discharges: Completion of the initial Orlando well will involve the use of Low Toxicity Oil Based Mud (LTOBM) with cuttings contained and returned to shore for treatment. The second well, if drilled, will use a combination of Water Based Mud (WBM) for the top hole sections and Low Toxicity Oil Based Mud (LTOBM) for the lower sections. WBM cuttings will be discharged to sea and LTOBM cuttings will be contained and returned to shore for treatment. The chemicals used in the course of the drilling and production operations will be risk assessed in the relevant applications for chemical permits. Produced water for the Orlando Field will be processed using the existing treatment processes on the Ninian Central platform, prior to overboard disposal, but it is not anticipated that oil in water levels will increase, and the marine environment in the development area is sufficiently dynamic to facilitate rapid dispersion of the proposed discharges. Potential environmental impacts are therefore considered to be insignificant.

Atmospheric emissions: The main source of atmospheric emissions will be fuel use during the drilling and support operations, and the subsequent production operations. Considering the highly dispersive nature of the environment, potential impacts are considered to be insignificant.

Accidental events: A number of control measures will be in place to minimise the risk of accidental events, and Iona will develop an Oil Pollution Emergency Plan (OPEP) for the proposed drilling and production activities. Modelling of worst-case blow-out and diesel spillage has been undertaken.

Cumulative Impacts: The proposed development is within an area of the northern North Sea with extensive previous oil and gas activity. However, the environmental impact is considered to be insignificant and there is a low level of shipping and commercial fishing operations, and it is therefore not anticipated that there will be any significant in-combination navigational or environmental effects.

Transboundary Impacts: The proposed drilling and production activities are not anticipated to result in any significant transboundary effects, with atmospheric emissions and discharges to sea expected to disperse within a short distance of the development. Oil spill modeling predicts beaching of oil on the Norwegian coast within 6 days in the event of a blow out, but this assumes no intervention from the operator, whereas in practice the Oil Pollution Emergency Plan would be instigated. In the event of an oil spill entering the waters of an adjacent State, it may be

necessary to implement international contingency arrangements, e.g. the NORBRIT Agreement (the Norway-UK Joint Contingency Plan).

Consultation

The Joint Nature Conservation Committee (JNCC), Marine Scotland (MS), the Maritime and Coastguard Agency (MCA), the Northern Lighthouse Board (NLB) and the Ministry of Defence (MoD) were consulted on the proposals. The ES was also subject to Public Notice.

JNCC: JNCC requested clarification of a number of issues in relation to Annex I habitats. However, following the provision of additional information, they confirmed they were satisfied that the proposed development was unlikely to impact any habitat that constituted an Annex I reef.

MS: Following clarification of a few issues, MS confirmed they were content for DECC to accept the ES.

MCA: MCA confirmed that there were no objections, subject to inclusion of the normal navigational conditions in the relevant Consents to Locate for the drilling operations and the seabed infrastructure.

NLB: NLB confirmed they had no objections, subject to the inclusion of standard marking schedule conditions in relation to the MODU, the notification of rig moves and the charting of the geographical locations of the subsea infrastructure.

MoD: MOD confirmed that there were no objections.

Public Notice: No comments were received in response to the Public Notice.

Further Information

Further information was requested to address issues raised by the consultees and identified during the DECC OGOED review of the ES. The response received from Iona adequately addressed the issues raised.

Conclusion

Following its review of the ES, the comments received from consultees and the additional information provided by Iona, DECC OGOED is content that the Orlando Field Development is unlikely to have a significant adverse effect on the marine environment in general, any protected sites or species or other users of the sea.

Recommendation

DECC OGOED has no objection to the grant of consent for the Orlando Field Development.

Department of Energy & Climate Change

D/4130/2011

Approved

……Date 8 March 2013

Wendy Kennedy

Head of Offshore Oil and Gas Environment