

**EnQuest Heather Limited
YTHAN FIELD DEVELOPMENT
Environmental Statement Summary**

To: Wendy Kennedy
From: Fiona Brett
Date: 15 September 2014

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| ES Title: | Ythan Field Development |
| Operator: | EnQuest Heather Limited (Enquest) |
| Consultants: | RPS Energy HSE & Risk Management |
| Field Group (DECC): | Aberdeen (Northern North Sea) |
| ES Report No: | D/4167/2014 |
| ES Date: | May 2014 |
| Block No's: | 211/18a, 211/18e & 211/19c |
| Development Type: | Oilfield Development |

(A) PROJECT DESCRIPTION

EnQuest is planning to develop the Ythan Field located within Blocks 211/18a, 211/18e and 211/19c in the northern North Sea, approximately 144 kilometres (km) from the Scottish coastline and 9.6 km from the UK / Norwegian median line and in a water depth of approximately 170 metres (m). The field will be developed via the existing Don South West infrastructure located in Block 211/18a. The Ythan Field lies approximately 2 km to the east of the Don South West drill centres.

The field development will consist of drilling up to two production and two water injector wells, tied into the existing subsea infrastructure via short 8" production, 8" water injection and 3" gas lift flowlines, approximately 40 m long. Production will then be routed to the Northern Producer Floating Production Facility (FPF). Water injection and gas lift will be supplied from the Northern Producer via existing pipelines.

The wells will be drilled using a conventional semi-submersible Mobile Drilling Unit (MoDU) anchored over the well locations. The top-hole sections will be drilled riser-less with seawater and high viscosity sweeps, and the lower sections will be drilled using Low Toxicity Oil-Based Mud (LTOBM). Each well will generate approximately 375 tonnes of Water-Based Mud (WBM) cuttings, which will be discharged to sea, and 550 tonnes of LTOBM cuttings which will be skipped and shipped ashore for treatment and disposal. No extended well tests will be carried out, but there will be limited flaring during well clean-up.

Pipelay operations to install and tie in the pipeline spool pieces and control jumpers will be undertaken using a Diving Support Vessel (DSV). There will be no trenching, and an estimated 84 concrete mattresses and 5 tonnes of rock will be deposited to mitigate against upheaval buckling and to protect the subsea infrastructure.

Development drilling and subsea infrastructure installation is scheduled for October 2014, with first oil anticipated in Q1 2015. The field life is expected to be nine years, from 2015 to 2024. All activities will be subject of an Oil Pollution Emergency Plan (OPEP) that will be approved prior to commencement of operations.

(B) KEY ENVIRONMENTAL IMPACTS

The Environmental Statement (ES) identified and discussed the following key activities with the potential to result in an environmental impact:

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| <i>Drilling:</i> | MoDU anchors, MoDU and vessel noise, combustion and well clean-up emissions, cuttings discharges and accidental spills. |
| <i>Sub-sea installation:</i> | Vessel noise, subsea infrastructure installation, protective material deposits, combustion emissions, hydrotest discharges and accidental spills. |
| <i>Production:</i> | Atmospheric emissions, produced water discharges and accidental spills. |
| <i>Wider concerns:</i> | Transboundary issues, cumulative effects and accidental events |

- **Physical presence:** The wells will be drilled from a semi-submersible MoDU within a common drill centre, the MoDU will only be positioned once during the drilling programme. The MoDU and subsea infrastructure will be subject to statutory consent requirements, and no significant impact on other users of the sea is expected.
- **Seabed disturbance:** The wells will be drilled using both WBM and LTOBM, with cuttings from the WBM sections discharged to sea. Impacts on benthic fauna will be restricted to the drilling area and the anchorage points, and recovery is expected following completion of the drilling operations. The flowlines will be laid on the seabed, and protected by approximately 84 concrete mattresses and 5 tonnes of rock, but the seabed disturbance will be limited and recovery is expected within five to ten years.
- **Noise:** The incremental increase in noise levels is expected to be limited to the drilling operations, the flowline installation operations and a potential Vertical Seismic Profile (VSP) survey. If a VSP is undertaken, EnQuest would intend to adhere to the Joint Nature Conservation Committee (JNCC) guidelines, and any localised disturbance is considered unlikely to have a significant adverse impact.
- **Atmospheric emissions:** There atmospheric emissions are not predicted to have any significant impact.
- **Accidental events:** Ythan is an oil reservoir and the worst-case scenario of an uncontrolled flow of reservoir hydrocarbons has been modelled. Control measures will be in place to minimise the risk of accidental events and an Oil Pollution Emergency Plan (OPEP) will be in place to cover the proposed development.
- **Cumulative impacts:** The Ythan Field is within a well-developed oil and gas area, with moderate levels of shipping and a low to moderate levels of commercial fishing activity. It is not anticipated that there will be any significant cumulative impacts relating to the proposed development.
- **Transboundary Impacts:** The proposed drilling and production activities are

not anticipated to result in any significant transboundary effects. In the event of a significant oil spill, modelling predicts that oil could cross the median line within approximately five hours and beach on the Norwegian coastline after 84 hours. In the event of any oil spill entering Norwegian waters, it could be necessary to implement the NORBRIT agreement.

(C) KEY ENVIRONMENTAL SENSITIVITIES

The ES identified the following environmental sensitivities:

- **Fish:** The development area is in a spawning area for cod, haddock, Norway pout, saithe and whiting, and in a nursery area for blue whiting, haddock, Norway pout hake, ling, whiting, herring, mackerel and spurdog. The spawning and nursery areas are extensive and the area of impact would be localised and temporary. The drilling of the wells and installation of the subsea infrastructure is therefore considered unlikely to impact fish stocks.
- **Seabirds:** Seabird vulnerability is high during July and low during the remainder of the year. Sufficient mitigation measures will be in place to prevent accidental spills that could have a significant impact on seabirds.
- **Protected habitats:** No Annex I habitats have been designated in the vicinity of the proposed development, and surveys undertaken in 2007 and 2012 did not identify any potential habitats in the development area. The nearest Special Area of Conservation (cSAC) is the Pobie Bank Reef cSAC, located approximately 110 km to the southwest of the proposed development. The development proposals are therefore not expected to have any significant impact on protected habitats.
- **Protected species:** Cetacean numbers in the development area are low. The most commonly occurring species are harbour porpoise, minke whales and pilot whales, with increased densities for all three species in June and July. Grey and common seals inhabit the coastal waters around the North Sea and have occasionally been observed to travel long distances when foraging, but both species are unlikely to be present in significant numbers at the development location. Any disturbance of marine mammals is therefore expected to be insignificant.
- **Other users of the sea:** The proposed development is situated within ICES rectangle 51F1, and relative fishing effort in the area is moderate to low for most of the year, with the highest fishing effort in April, May and June. Shipping density in the vicinity of the proposed development is moderate. Appropriate navigational controls will be put in place, and it is not anticipated that there will be any significant impact on other users of the sea.

(D) CONSULTATION

Comments were received from the JNCC, Marine Scotland (MS), the Maritime and Coastguard Agency (MCA), the Ministry of Defence (MoD) and the Northern Lighthouse Board (NLB). The ES was also subject to public notice.

JNCC: JNCC requested the inclusion of the most recent benthic habitat survey data (2012),

which was referenced within the conclusion sections of the ES. Following the provision of additional information, JNCC had no further comments.

MS: MS confirmed that they were content for the ES to be accepted.

MCA: MCA confirmed that they have no objections.

MoD: MoD confirmed that they have no objections.

NLB: NLB advised that the permanent infrastructure on the seabed must be communicated to UK Hydrographic Office to ensure updating of all relevant admiralty charts.

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

(E) FURTHER INFORMATION

Further information was requested from EnQuest to address the issues raised by JNCC and during the internal DECC review, including:

- The inclusion of more recent survey data referenced in the ES;
- Additional information relating to development option selection;
- Additional information relating to potential impacts of MoDU anchoring; and
- Additional information relating to the production profile.

EnQuest provided the additional information on 15 August and 3 September 2014, and adequately addressed all of the issues raised.

(F) CONCLUSION

Following review of the ES, the comments received from consultees and the additional information provided by EnQuest, DECC OGED is satisfied that the project will not have a significant adverse impact on the receiving environment or on the living resources it supports, or on any protected sites or species or other users of the sea.

(G) RECOMMENDATION

DECC OGED recommends acceptance of the ES, and has no objection to the issue of consent for the proposed development.

...*Wendy Kennedy*.....

Wendy Kennedy
Director, DECC OGED

...23/09/2014.....

Date