

**EnQuest Heather Limited
Galia Field Development
Environmental Statement (ES) Summary**

Title:	Galia Field Development Environmental Statement
Operator:	EnQuest Heather Limited (EnQuest)
Consultants:	Intertek METOC Limited
Report No:	D/4127/2011
Submission Date	May 2012
Quad/Block:	30/24
Project Type:	Field Development
Reviewer:	Anna Buckingham
Date:	12 September 2012

Project Description

The Galia Field is located in Block 30/24, approximately 280 kilometres (km) east of the nearest UK coastline and 22 km west of the UK / Norway median line, in a water depth of approximately 80 metres (m). The field has a maximum estimated recovery of 1.41 million tonnes (MMt) of oil and 125 million cubic metres (MMm³) of gas.

The proposed development will consist of one production well tied-back via a new 5.3 km 8" oil production flowline to the Alma production manifold. which in turn will be tied back to the EnQuest Producer (formerly known as the Uisge Gorm) Floating Production Storage and Offloading (FPSO) vessel. The proposed well will be drilled using the *Ocean Princess* semi-submersible Mobile Drilling Unit (MoDU).

Drilling of the production well is scheduled to commence in September 2012, with completion in Q4 2012. Installation of the production flowline, umbilical and power cable is scheduled to commence between April and November 2013, using a dynamically positioned (DP) pipelay vessel, with the latest completion date in Q4 2013. The production flowline, umbilical and power cable will be trenched and, where necessary, protected by the deposit of approximately 2,960 tonnes of rock (plus a contingency of 2,000 tonnes). Exposed lengths at the terminations will be protected by the deposit of a total of 150 concrete mattresses.

The FPSO will be located to serve the Alma field in January 2013, with hook-up, commissioning and first oil from the Galia field scheduled for Q4 2013. Oil will be exported via a shuttle tanker on a fortnightly basis. Based on the projected P₁₀ (highest) recovery rate, it is estimated that oil production will be approximately 1,228 tonnes per day (t/d) in the first year of production, gradually decreasing to approximately 50 t/d by 2023. The field life is anticipated to be 10 years.

Key Environmental Sensitivities

The EIA identified the following environmental sensitivities:

Fish Stocks: The development is in an area where there are fish spawning and/or nursery areas for cod, whiting, hake, ling, blue whiting, plaice, herring, mackerel, sandeels, anglerfish, spotted ray and spurdog,. Spawning occurs mainly between November and June, peaking in January to March, but juveniles are likely to be present throughout the year.

Seabirds: Seabird vulnerability in the area is high in January and March and moderate to low for

the rest of the year.

Protected sites and species: The nearest protected site is the Dogger Bank Site of Community Importance (SCI), located approximately 78 km south of the southern drill centre. The proposed development is not expected to have any significant impact on this protected site.

- **Marine Conservation Zone (MCZ):** A Net Gain Zone has been identified approximately 9 km to the west of the development area and outside the area of any likely impact, which has been classed as a recommended MCZ.
- **Annex I Habitats:** No Annex I habitats have been identified in the immediate vicinity of the proposed development.
- **Cetaceans:** harbour porpoise, bottlenose dolphin, minke whale, killer whale, risso's dolphin, white beaked dolphin, white sided dolphin and common dolphin have all been recorded in this general area, with highest numbers recorded during the period May to September.
- **Pinnipeds:** Grey and harbour seals have been observed within the proposed development area, however sightings are rare as the proposed development is 280 km from the nearest coastline.

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

Key Potential Environmental Impacts

The EIA 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. 500m exclusion zone around the MoDU and FPSO, the use of standby vessels, and the issue of Kingfisher Bulletins and Notices to Mariners. Due to the low fishing and shipping activity in the area, the impact of the proposed development is considered to be insignificant.

Seabed disturbance: The drilling of the wells and installation of subsea infrastructure, including the 2,960 tonnes of rock (and the contingency additional 2,000 tonnes) and the 150 concrete mattresses to protect the infrastructure 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 within a fairly short period of time.

Noise: A number of noise sources will be associated with the proposed operations, including noise from drilling, production operations, standby vessels and helicopters. However, no piling operations will be carried out, and the risk to marine mammals is therefore considered to be low.

Marine discharges: The wells will be drilled using a combination of Water Based Mud (WBM) and Low Toxicity Oil Based Mud (LTOBM), with WBM cuttings discharged to sea and LTOBM cuttings shipped ashore for disposal. All the chemicals used in the course of the drilling and production operations will be selected on the basis of technical compatibility and environmental performance, and all produced water will be re-injected. The marine environment in the development area is sufficiently dynamic to facilitate rapid dispersion and dilution of the proposed discharges, and potential environmental impacts are considered to be insignificant.

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

Accidental events: Appropriate control measures will be in place to minimise the risk of accidental events, and EnQuest will develop an Oil Pollution Emergency Plan (OPEP) and Emergency Procedures Plan (EPP) for the proposed drilling and production activities. Modelling of worst-case blow-out and diesel spills has been undertaken, and related impact assessments included in the environmental impact assessment.

Cumulative Impacts: The proposed development is in an area where there are a range of oil and gas operations, in addition to the limited commercial fishing and shipping operations. However, it is not anticipated that there will be any significant in-combination effects.

Transboundary Impacts: The proposed drilling and production activities are not anticipated to result in any significant transboundary effects. 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 Contingency Plan Agreement).

Consultation

The Joint Nature Conservation Committee (JNCC), Marine Scotland (MS), the Centre for Environment, Fisheries and Aquaculture Science (CEFAS), the Maritime and Coastguard Agency (MCA), and the Ministry of Defence (MoD) were consulted on the proposals. The ES was also subject to Public Notice.

JNCC: JNCC confirmed that adequate measures have been put in place to minimise the potential impacts of the activities on the marine environment.

MS: MS confirmed that had no objections but deferred a final risk assessment for chemical use and discharge until they were consulted on the relevant chemical permit applications.

CEFAS: CEFAS Environment confirmed that they had no objections. CEFAS Chemicals confirmed they had no objections to the generic assessment of chemical use and discharge, but deferred a final risk assessment for chemical use and discharge until they were consulted on the relevant chemical permit applications.

MCA: MCA confirmed that they had no objections subject to inclusion of the normal navigational conditions in the relevant Consents to Locate.

MoD: MOD confirmed that they had no objections.

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

Further Information

Further information was requested to address issues identified during the DECC OGED review. The responses received from EnQuest adequately addressed the issues raised.

Conclusion

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

Recommendation

DECC OGED has no objection to the Galia Development being granted consent to proceed, but reserves the right to request supplementary information and review its decision if there are any significant changes to the Field Development Plan that have a material effect on the information provided in the ES.

Approved

Wendy Kennedy..... Date.....14/09/2012.....

Wendy Kennedy

Director, Energy Development Unit, Oil and Gas Environment and Decommissioning (OGED)