Apache Beryl I Limited
AVIAT FIELD DEVELOPMENT
Environmental Statement Summary

To: Wendy Kennedy
From: Inger Söderström
Date: 02 July 2014

ES Title:	**Aviat Field Development**
Operator:	**Apache Beryl I Limited**
Consultants:	**Hartley Anderson Limited**
Field Group (DECC):	**Aberdeen**
ES Report No:	**D/4166/2014**
ES Date:	**April 2014**
Block Nos:	**22/7, 22/6 & 21/10**
Development Type:	**Gas field development involving the drilling of up to two development wells tied back via a new 23 km 8" pipeline to the existing Forties Alpha Platform, where the produced gas is to be used as fuel gas to augment the existing Forties associated gas use and offset diesel import and use.**

Project Description

The Aviat Field is located in Block 22/7a in the central North Sea, approximately 188 kilometres (km) from the Scottish coastline and 41 km from the UK / Norwegian median line; in a water depth of approximately 81 metres (m).

The development will consist of the drilling of up to two production wells using a jack-up Mobile Drilling Unit (MoDU), the Rowan Gorilla VII. The wells will be located in the same drill centre, and will be completed as a subsea development connected to a Pipeline End Manifold (PLEM), and then tied back to the Forties Alpha Platform via a new 23 km 8" flowline installed in a backfilled trench with an adjacent control umbilical. A Subsea Isolation Valve (SSIV) will be installed within the Forties Alpha safety zone, and topside modifications will be undertaken in two phases to receive the produced gas, with compression required during Phase II.

Development drilling and subsea infrastructure installation is scheduled for Q3 2015, with first gas anticipated in Q2 2016. The field life is expected to span from 2016 to 2031 with estimated recoverable reserves of 54.5 bcf gas.

Environmental Sensitivities

The Environmental Impact Assessment (EIA) identified the following environmental sensitivities:

- The development area overlaps with known spawning grounds for lemon sole, Norway pout and *Nephrops,* and is at the edge of spawning grounds for mackerel and sandeels. The location is also within nursery areas for haddock, blue whiting, Norway

pout and *Nephrops,* and at the edge of a nursery area for sandeels.

- Seabird vulnerability is very high in September and November, high in July and October, and moderate to low for the remainder of the year;
- Protected habitats: No potential Annex I habitats have been designated in the vicinity of the proposed development, and surveys undertaken in 2011 and 2013 did not identify any potential habitats in the development area or along the pipeline route. The nearest Special Area of Conservation (cSAC) is the Scanner Pockmark, located approximately 61 km to the north of the proposed development. The closest possible Nature Conservation Marine Protected Area (pNC MPA) is the East Gannet and Montrose pNC MPA.
- Protected species: Harbour porpoise, white-beaked dolphin, Atlantic white-sided dolphin and minke whale have all been recorded in the general area, with peak numbers in the summer months. Grey and harbour seals are unlikely to be present in large numbers in view of the typical foraging distances from haul-out sites.
- Other users of the sea: Fishing effort is low, although the development lies to the south of the Fladen Ground, a large area of moderate to high fishing effort. Shipping levels in the area are low to very low, although levels in the Forties area are moderate.

Potential Environmental Impacts

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

- **Physical presence**: The wells will be drilled from a jack-up MoDU within a common drill centre, and the MoDU will only be positioned once during the 96 day drilling programme. The MoDU and subsea infrastructure will be subject to statutory consent, notification and lighting requirements, and no significant impact on other users of the sea is expected.

- **Seabed disturbance**: The wells will be drilled using both Water Based Mud (WBM) and Low Toxicity Oil Based Mud (LTOBM), with cuttings from the WBM sections discharged to sea and cuttings from the LTOBM sections skipped and shipped ashore for treatment and disposal. Impacts on benthic fauna will be restricted to the drilling area and recovery is expected to commence when drilling has ceased. The 23 km flowline will be trenched and backfilled together with the umbilical, and rock placement will be required over an approximately 6 km length where the pipeline will have to be laid on the seabed surface. Mattresses will be used for protection at the approaches to the Forties Alpha Platform and PLEM, and for the pipeline crossings. The work will result in seabed disturbance, but recovery is expected within five to ten years.

- **Noise**: The incremental increase in noise levels is expected to be limited to the drilling operations and the piling of the PLEM. Piling will occur over an eight hour period and modelling predicts that sound pressure levels will be below those likely to cause injury to cetaceans within a very limited range (<1m). Apache intend to follow the JNCC guidelines for piling, and any localised disturbance is considered unlikely to have any significant impact.

- **Atmospheric emissions:** There will be atmospheric emissions due to fuel use during the drilling and pipelay operations. The produced gas will either be used on Forties

Alpha, Forties Charlie or Forties Delta for power generation, reducing the reliance on diesel, and the atmospheric emissions are not predicted to have any significant impact.

- **Accidental events**: Aviat is a gas reservoir and the worst case scenario would be total loss of the diesel inventory on the MoDU, which would not reach the median line or coastlines. 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 Aviat Field is within a well-developed oil and gas area, with very low to low levels of shipping and a low level 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, with discharges to sea expected to disperse within a short distance of the development. Modelling has predicted that any loss of diesel inventory will not reach the median line, or beach on adjacent coastlines.

Consultation

The Joint Nature Conservation Committee (JNCC), Marine Scotland (MS), the Maritime and Coastguard Agency (MCA), the Ministry of Defence (MoD) and the Northern Lighthouse Board were consulted on the proposals. The ES was also subject to public notice, but no comments were received. None of the consultees raised any objections to the proposals.

Further Information

A number of issues were highlighted during the DECC review, and further information was requested from Apache. The additional impact provided satisfactorily addressed the issues that were raised.

Conclusion

Following review of the ES, the comments received from consultees and the additional information provided by Apache, 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.

Recommendation

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

……*Wendy Kennedy*……
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Wendy Kennedy **Date 08/07/2014**
Director, DECC OGED