

**Ithaca Energy (UK) Ltd**  
**Stella and Harrier Field Developments**  
**Environmental Statement Summary**

<b>Title:</b>	Stella and Harrier Field Developments
<b>Operator:</b>	Ithaca Energy (UK) Ltd.
<b>Consultants:</b>	Hartley Anderson Limited.
<b>Report No:</b>	D/4125/2011
<b>Submission Date:</b>	November 2011
<b>Quad/Block No:</b>	30/06a
<b>Project Type:</b>	New field developments.
<b>Reviewer:</b>	Sam Coupland
<b>Date:</b>	13 February 2012

**A) Project Description**

The Stella and Harrier Fields are located in the central North Sea, approximately 240 kilometres (km) southwest of Peterhead and 17 km for the UK/Norway median line. The proposed development will comprise the drilling of 7 development wells and installation of associated subsea wellheads, manifolds and intra field pipelines; and the tie-back of the subsea facilities to a floating production vessel (FPV), with gas and oil exported via new pipelines connecting to the CAT and GAEL systems respectively. The activities will be undertaken in two phases, commencing in Q4 2012 and Q1 2015 respectively, with first production from the Stella Field in Q3 2013 and first production from the Harrier field in Q2 2015.

**B) Key Environmental Sensitivities**

The EIA identified the following environmental sensitivities:

**Fish stocks:** The area is within spawning grounds for Lemon Sole (April to September), Norway Pout (January to May) and Mackerel (May to August).

**Seabirds:** Seabird vulnerability to surface pollution is high in January and moderate to low for the rest of the year.

**Annex I Habitats:** There are no designated Annex I habitats within the area.

**Annex II Species:** Harbour porpoise and grey seals (infrequently and in small numbers) are found in the area.

**Other users of the sea:** The Stella and Harrier area has relatively low fishing effort, and shipping traffic in the area is moderate.

**C) Key Environmental Impacts**

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

**Physical interference:** Appropriate mitigation measures will be put in place, e.g. 500 metre (m) safety zones around the FPV, the Mobile Drilling Unit (MoDU) and the wellheads, and the issue of Kingfisher Bulletins, Notices to Mariners etc., to notify other users of the sea, and any impacts are considered to be extremely limited because of the relatively low levels of

shipping and fishing activity in the area.

**Seabed disturbance:** A number of activities will impact the seabed, the most significant being the footprint of the pipeline systems; the MoDU spud can depressions; the FPV moorings; and the deposit of cuttings during the drilling of the wells. Given the relatively limited spatial impact of the proposed operations and the inferred resilience of the local habitats and species, it is considered that there will be no significant adverse effect on the seabed communities. There is a possibility that an anchor lay barge may be used for pipelay operations, which would increase the spatial impact of the project. Should this option be chosen, Ithaca would be required to survey an area 500m either side of the pipeline corridor to identify any features that could be adversely impacted and to update their impact assessment accordingly.

**Noise:** Noise will be generated during the drilling, pipelay and production operations, during the piling of the manifolds and FPV moorings, and in connection with vessel and helicopter movements. The most significant source will be associated with the piling operations for the installation of the FPV moorings, which will result in a calculated sound pressure level (SPL) of approximately 170dB at a distance of 200 m from the proposed operations. However, all piling operations will be of comparatively short duration, will be undertaken in accordance with the JNCC guidelines, and a soft-start procedure will be implemented to allow any marine mammals to migrate away from the sound source. Ithaca are also investigating the use of suction caisson moorings, although these structures have a larger seabed footprint, as the level of noise generated during the operations is negligible.

**Atmospheric emissions:** The main atmospheric emissions associated with the proposed development will be combustion products from power generation and engines on the FPV, the MoDU, the pipe-lay vessel, and other associated vessels and helicopters. In addition, various well clean-up tests are proposed, with produced hydrocarbons flared and resulting in atmospheric emissions. Power generation for the FPV will be provided by three dual fuel turbines, run predominantly on fuel gas, with a further two gas turbines to provide export gas compression. The scale of the anticipated emissions is considered unlikely to have any significant impact on local, regional or global air quality.

**Marine discharges:** The only significant discharges relating to the proposed development will be the discharge of cuttings and associated water-based mud during the drilling of the upper sections of the wells, and the discharge of produced water during the production operations. Discharges during the drilling operations will have a very limited and local impact at the well locations. The amount of produced water anticipated from the Stella and Harrier developments is relatively low, with peak levels of approximately 670 m<sup>3</sup> per day for approximately three years, then dropping to very low levels. Dispersion modelling of produced water discharges from the FPV indicates that the predicted no effect concentrations would be reached within approximately 100 m of the discharge point. It is concluded that the discharge of produced water from the FPV will have no significant impact.

**Accidental events:** A number of control measures will be in place to minimise the risk of accidental events, and Ithaca will develop an Oil Pollution Emergency Plan (OPEP) and Emergency Procedures Plan (EPP). Modelling of a blow-out release and diesel spill has been undertaken and included in the Environmental Statement (ES).

**Cumulative Impacts:** The area of the proposed development includes a number of oil and gas operations, in addition to shipping and commercial fishing operations. However, it is

considered unlikely that the development will have a significant effect in combination with other projects.

**Transboundary Impacts:** The UK/Norway median line is approximately 17 km from the development area. No transboundary impacts are likely as a result of operational activities, but in the event of an oil spill entering Norwegian waters, it may be necessary to implement the NORBIT Agreement (the Norway-UK Joint Contingency Plan).

#### **D) Consultation**

Comments were received from the Joint Nature Conservation Committee (JNCC), Marine Scotland (MS), the Ministry of Defence (MOD) and the Maritime and Coastguard Agency (MCA). The ES was also subject to public notice.

**JNCC:** Requested details of the findings of the FPV to CATs route survey, which Ithaca provided in an addendum to the ES. JNCC subsequently confirmed that they accepted the conclusions of the ES, and that the proposed developments would not have a significant impact on the conservation value of the marine environment.

**MS, MOD and MCA:** No objections were received, and all three organisations were content that the ES should be accepted.

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

#### **E) Additional Information**

Further information was requested to clarify a number of issues identified during the DECC OED review of the ES, and to provide additional information requested by JNCC. Ithaca provided the requested information on 8<sup>th</sup> February 2012 and, where appropriate, committed to take account of the comments in future submissions. All the outstanding issues were satisfactorily addressed.

#### **F) Conclusion**

Following consultation and the provision of the additional information, DECC OED is satisfied that the project will not have a significant adverse impact on the receiving environment or the living resources it supports, or on any protected habitats or species or other users of the sea.

#### **G) Recommendation**

On the basis of the information presented within the ES and advice received from consultees, DECC OED is content that there are no environmental or navigational objections to the proposals, and has advised DECC LED that there are no objections to the grant of the relevant consents.

**Approved: Sarah Pritchard, Head, Offshore Environment Unit. DECC OED (Offshore Environment and Decommissioning)**

*Sarah Pritchard*

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**Date:** 24/05/2012