Hurricane Exploration Plc.
Lancaster Well 205/21a-C
Environmental Statement Summary

To: Sarah Pritchard

From: Sarah Dacre
Date: **19th May 2009**

ES Title:	Well 205/21a-C (Lancaster)
Operator:	Hurricane Exploration Plc.
Consultants:	ERT (Scotland) Ltd.
Field Group (DECC):	Aberdeen
ES Report No:	W/4045/2009
ES Date:	March 2009
Block Nos:	205/21a
Development Type:	Single exploration well

Project Description

The project comprises:

- The drilling of a single exploration well to a depth of 1,570m below the seabed using a semi-submersible rig;
- The well being drilled using Water Based Mud (WBM), where 237 and 189 tonnes of cuttings will be discharged at the seabed and sea surface respectively;
- The drilling period is estimated to be 60 days;
- 96 hour well test;
- A Vertical Seismic Profile is also planned.

Environmental Sensitivities

The EIA identified the following environmental sensitivities:

- Low shipping activity (c.2.5 vessels per day passing within 10nm);
- High fishing activity;
- Fish spawning area for blue whiting (April to June), mackerel (March to July), Norway pout (January to April), and sandeels (November to February). Spawning activity does not overlap with the proposed drilling schedule.
- Seabird vulnerability is high in July, but low to very low for the remainder of the drilling operations (August and September);
- Sightings of the Atlantic white-sided dolphin, harbour porpoise, killer whale, long-finned pilot whale, minke whale, Risso's dolphin and white-beaked dolphin have been recorded in the area of the proposed operations;
- Annex I Habitats: Site surveys did not identify any potential Annex I habitats within the vicinity of the proposed drilling operations;
- Annex I Species: there are no Annex I species within the vicinity of the proposed operations.
- Annex II Species: harbour porpoise occur in low numbers, mainly in the summer months;
- Protected sites: The proposed well is approximately 170km from the nearest offshore SAC and over 100km from the nearest inshore SAC and SPA.

Key Potential Environmental Impacts

The following potential impacts and mitigation were addressed in the EIA:

- Obstacles to other marine activities during operations – the primary obstacles will be the presence of the rig and associated support vessels during mobilisation, drilling and demobilisation. A collision risk management plan will be in place to minimise the risk of vessel collision. In addition, safety zones will also be designated and the operations will be promulgated in advance through the Notices to mariners, Navtex and VHF broadcast.

  Fisherman will lose access to an area of 4.5km2 around the proposed Lancaster well for a maximum of 60 days and therefore any impacts to fisheries will be negligible.

- Seabed disturbance – As a result of drilling activities there will be a temporary disturbance to the seabed through:

  (i) *Physical presence of the rig* - The use of anchors for the semi-submersible rig on the seabed will disturb localised areas of seabed. The total area of seabed affected by the anchors and anchor lines is 0.96km2. Following completion of the drilling operations, sediment is expected to re-distribute and re-colonisation of benthic organisms is also expected to follow quickly. No Annex I habitats have been identified in the vicinity of the proposed well.

  (ii) *Mud and cuttings discharge* - Drilling operations at the Lancaster well will include the use and discharge of WBM mud and cuttings to the sea-surface and at the seabed. A worse case scenario of 237 and 189 tonnes of cuttings will be discharged at the seabed and at the sea surface respectively, totalling 426 tonnes.

  Modelling using ASA MUDMAP predicted that cuttings and mud deposition of >0.1mm thickness will cover an elliptical area of 0.528km2 aligned west-east. For the greater part of this area the distribution is likely to be patchy and insignificant. The maximum cuttings thickness modelled is 79mm, covering an area in the immediate vicinity of the well not extending more than a few metres.

  Any impacts on the seabed topography and sediment structure of the area are considered to be minor immediately after drilling, becoming negligible within a few months after the cessation of drilling activity.

- Noise – the drilling operations and the presence of standby vessels and helicopter traffic will produce noise for approximately 60 days, however the nature of the noise generated is not expected to cause any significant impacts. In addition, a VSP survey may also be carried out and may cause avoidance response reactions from cetaceans within a few kilometers radius, but due to the short duration (1 day) of the survey any effects are expected to be transient and are not deemed to be significant. Marine Mammal Observers (MMO's) and soft-starts will be used as mitigation measures during the VSP survey.

- Atmospheric emissions – the main sources of atmospheric emissions during drilling operations will be the result of diesel burnt for power generation of the drilling rig and associated stand-by vessels. Well testing may also be carried out. All equipment and generators will be well maintained to ensure optimum efficiency. In the event a well test is carried out, high combustion efficiency burners will be used and volumes flared will be kept to a minimum, not exceeding 96 hours. Impacts from atmospheric emissions are relatively small scale and not considered to have a significant impact.

- Marine discharges – the only foreseeable discharges are associated with the proposed drilling of the Lancaster exploration well. The drilling operation will only use Water Based Muds. All chemicals are CEFAS registered and are not considered to be significantly harmful to the environment.

- Accidental events – A number of control measures will be in place to minimise the risk of accidental events such as an Oil Pollution Emergency Plan (OPEP). In addition, operational procedures are in place between HEX and the drilling contractor to mitigate against the risk of chemical spills, which are recorded within HEX's Environmental Management System (EMS).

- Cumulative Impacts – There are not expected to be any cumulative or transboundary impacts from the proposed drilling of the Lancaster exploration well.

Public Consultation: No comments were received as a result of the public consultation.

Consultee(s):

The statutory consultees for this project were JNCC and Marine Scotland Science. The following comments were made:

JNCC: Recommendation for approval of the ES was given. JNCC advised that the ES was of good quality and detailed appropriate mitigation measures to minimise the effects on the receiving marine environment.

Marine Scotland Science: There are no fisheries related restrictions covering this Block during the proposed works period. The ES was commended for a well constructed and informative ES. Marine Scotland advised that fishing friendly structure over the well head as apposed to just a guard vessel for protection. Recommendation for consent was issued.

Further Information: A request for further information was not necessary.

Conclusion(s):

Following consultation and a review of the ES, DECC and its consultees are satisfied that this project is not likely to have a significant impact on the receiving environment, including any sites or species protected under the Habitats Regulations.

Recommendation(s):

On the basis of the information presented within the ES and advice from consultees it is recommended that the ES should be approved.

Sarah Pritchard 20 May 2009

Sarah Pritchard **Date**