

**Hydrocarbon Resources Limited**  
**RHYL AND CASTLETOWN EXPLORATION WELL BLOCKS 113/27B**  
**Environmental Statement Summary**

**To:** Wendy Kennedy

**From:** Evelyn Pizzolla

**Date:** 29 September 2009

<b>ES Title:</b>	<b>Rhyl &amp; Castletown Exploration Wells</b>
<b>Operator:</b>	<b>Hydrocarbon Resources Limited (HRL)</b>
<b>Consultants:</b>	Rudall Blanchard Associates Ltd
<b>Field Group (DECC):</b>	London (H. Hitchens)
<b>ES Report No:</b>	W/4052/2009
<b>ES Date:</b>	13 October 2008 (Addendum February 2009)
<b>Block Nos:</b>	113/27b-F (Rhyl) & 113/27b-G (Castletown)
<b>Development Type:</b>	Exploration Wells

### **Project Description**

An 'umbrella' Environmental Statement (ES) submitted by Hydrocarbon Resources Limited (HRL), proposed the drilling of two dry gas exploration wells at Rhyl, Block 113/27b-F and Castletown, Block 113/27b-G in the East Irish Sea (Liverpool Bay).

Nearest landfall is approximately 28 & 21 kilometres respectively to the east at Walney Island, with the Liverpool Bay pSPA at 28 & 30 kilometres to the south east.

For both wells, the jack-up rig ENSCO 92, will be used to drill a slim hole, vertical well with Water Based Mud (WBM) designed to reduce cuttings and fluids discharges. The use of Low Toxicity Oil Based Mud (LTOBM) is not anticipated. If economic hydrocarbons are found the wells may be tested. Including well testing, the maximum time at each site is expected to be 45 days (Rhyl) and 72 days (Castletown). Irrespective of the findings, the wells will be plugged and abandoned in line with current guidelines.

### **Key Environmental Sensitivities**

The EIA identified the following environmental sensitivities:

- The wells will be approximately 28 & 30 kilometers to the NW of the Liverpool Bay pSPA
- Highest seabird vulnerability occurs between December and March
- Cetacean numbers are low in the area
- Fish spawning area for cod, whiting, sole, lemon sole, sprat, plaice and Nephrops
- Demersal fishing effort is moderate
- The proposed well lies in an area of high shipping activity
- The proposed wells lie close to a number of existing and planned offshore energy developments

### **Key Potential Environmental Impacts**

The EIA identified the following potential environmental impacts:

- Physical presence causing disturbance to seabird colonies and other sea users
- Seabed disturbance

- Marine discharges
- Atmospheric emissions
- Noise
- Accidental hydrocarbon spills

### **Physical presence**

Internationally important overwintering populations of common scoter and red-throated diver occur in the Liverpool Bay area. However, given the wells are situated some distance from the birds' primary feeding areas and the short drilling periods involved, the impacts are considered to be negligible.

The rig could pose a collision risk to shipping; however, the rig will carry an AIS transponder while on location and a 500 meter safety zone will be enforced by a guard vessel.

Fishing will only be impacted for the duration of the well drilling and testing (if required), anticipated at a maximum of 72 days therefore, the impacts are considered negligible.

Potential cumulative impacts from the wells are not considered to be significant at the time that the wells are planned to be drilled as neither the proposed wind farms in the immediate area of the wells nor the proposed gas storage projects will be under construction during the drilling period.

The Block lies within an MoD training range and the MOD will be notified before operations commence.

### **Seabed disturbance**

Sea bed disturbance will be caused by the jack-up drilling rig spud cans resting on and/or penetrating the seabed, however, the overall areas should be small and only slightly larger than the area of the spud cans (464m<sup>2</sup>). Due to the short drilling period, scour protection is not anticipated. If protection is needed, this will increase the impacted area around the spud cans, however, the operator undertakes to use the minimum quantity of rock necessary to ensure the safety of the rig.

The deposition of drill cutting around the rig will also cause disturbance and the immediate impact will be to smother the benthic communities in the area. However, the vertical slimline design of the wells is expected to generate a maximum of 450 & 630 tonnes of cuttings for Rhyl & Castletown respectively. Cuttings will be dispersed and oriented along an east-west axis for both wells and modelling has demonstrated a maximum 13.5 mm cuttings pile in the immediate vicinity of either well. Tidal activity and seabed currents should disperse the cuttings over time allowing re-colonisation to occur.

### **Marine discharges**

As well as cuttings discharges, the drilling mud, cement and associated chemicals will be discharged. Only WBM will be used and the chemicals have been chosen with the lowest environmental risk category where possible. Any impacts will be close to the well and the low toxicity values of the chemicals should allow rapid recovery and re-colonisation of the area.

### **Atmospheric emissions**

There will be a short-term increase in CO<sub>2</sub> emissions in the vicinity of the Rhyl and Castletown wells. Although all such emissions will contribute in a small way to the overall pool of greenhouse and acidic gases in the atmosphere, due to rapid dilution and dispersion into the atmosphere, local environmental effects will be negligible and there will be no transboundary effects.

### **Noise**

Due to relatively shallow depths at both well locations, the sites are not noted for marine mammal populations and modelling indicates that they are unlikely to be affected by the low frequency noise generated during drilling activities. Occurrence in this area of the east Irish Sea of other Marine EPS is considered to be sporadic and as drilling operations are anticipated to have a negligible impact on cetaceans, operations associated with the Rhyl and Castletown exploration wells are not anticipated to significantly impact any EPSs.

**Accidental hydrocarbon spills**

High seabird vulnerability during the late winter months makes them particularly susceptible to accidental oil spills. However, it is anticipated that both wells will produce only dry gas with a low potential for condensate and, therefore, the discharge of reservoir fluids constitutes a low risk.

Transfers of diesel between the drilling rig and supply vessels are identified as moderate risk. The proposed control measures include, bunkering operations only during daylight hours and good weather; planned inspection and maintenance of all hoses; the use of non-return valves on all hoses. The only other potential spill could occur due to collision. All possible steps will be taken to ensure all other sea-users are aware of the rig's position. Should an accident occur it was estimated that a worst case scenario of 968 tonnes of diesel could enter the marine environment. Modelling of a worst-case diesel spill under extreme weather conditions showed that diesel dispersed within 9 hours and did not reach the coast. The operator has ensured that an adequate Oil Pollution Emergency Plan is in place and would be rapidly deployed to reduce the risk in the unlikely event of an oil spill.

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

**Consultee(s):**

The statutory consultees for this project were JNCC and CEFAS. Both were requested to comment on the ES. The following comments were made:

JNCC: On the basis of the information provided in the ES, JNCC were content that the proposed drilling operations were unlikely to have a significant environmental impact. However, JNCC noted that the discharge volumes of cement to the seabed seemed somewhat excessive and HRL were requested to clarify the statements.

CEFAS: Cefas noted there are no fisheries restrictions on drilling operations during the proposed period but commented that as a commercially important fishing area HDL should maintain good communications with the fisheries organisations.

CEFAS: Cefas noted that drilling operations would be carried out entirely with WBMs comprising brine, barite and bentonite clay and that the majority of additional chemicals were PLONOR or of low environmental concern. They noted that the definitive choice of chemicals would be detailed and assessed in the appropriate PON15B.

**Further Information:** DECC asked for clarification regarding cement discharges to the seabed and the potential timeframe for well test operations.

HRL responded that quoted volumes included contingency discharges and that the actual volumes discharged to the seabed would be significantly less.

HRL confirmed that further planning resulted in a Drill Stem Test being designed for a total flow period of 27 hours, if required.

**Conclusion(s):**

Following consultation, 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.**

*Wendy J Kennedy*

*29/09/2009*

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**Wendy J Kennedy**

**Date**