Silverstone Energy Ltd.
Well 48/25c – Vulcan North West Exploration Well
Environmental Statement Summary

To: Sarah Pritchard

From: Sarah Dacre
Date: **4th December 2008**

ES Title:	Vulcan North West Exploration Well
Operator:	Silverstone Energy Ltd.
Consultants:	ERT (Scotland) Ltd
Field Group (DECC):	London
ES Report No:	W/4020/2008
ES Date:	August 2008
Block Nos:	48/25c
Development Type:	Exploration Well

Project Description

The proposed exploration well is located in Block 48/25c in the Southern North Sea, approximately 50km northeast of Cromer on the Norfolk coast.

The project comprises of:

- The drilling of a single vertical exploration well to a depth of 2,358m using the GSF Labrador jack-up drilling rig. A worse case quantity of 1800 tonnes of rig stabilisation material may be required.
- The well will be drilled using Water Based Mud (WBM), however contingency Oil Based Mud (OBM) is also proposed for the 12¼" section.
- If hydrocarbons are found, a well test will be performed over a period of 24 hours.
- A vertical Seismic Profile is also proposed, which will take one day.
- Drilling operations are likely to take 33 days. If hydrocarbons are found and a well test is performed, operations may be extended to 57.5 days.

Key Environmental Sensitivities

The EIA identified the following environmental sensitivities:

- Moderate shipping activity (c.7 vessels per day passing within 10nm);
- Low fishing activity;
- Fish spawning area for sandeel, lemon sole, mackerel (peak May-July), sole (peak April), plaice (peak Jan-Feb), herring and *Nephrops* (peak April-July).
- Nursery area for sandeel, lemon sole, whiting, cod, sprat and *Nephrops*.
- There are currently no restrictions on drilling and seismic activity in this Block.
- Seabird vulnerability is high in February, March and October to December.
- Low numbers of cetaceans have been recorded;
- Annex I Habitats: Environmental surveys did identified *Sabellaria spinulosa* colonies, but it was confirmed that they did not qualify as Annex I habitats due to their sparse distribution and low tube elevation.

- Annex II Species: harbour porpoise occurs in low to very low numbers all year round.

Key Potential Environmental Impacts

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

- Obstacles to other marine activities during operations - The shortest practical drilling schedule is proposed. Safety zones will be in operation throughout the drilling operations other users of the sea will be notified of vessel presence. Collision risk surveys were undertaken and concluded the effect on navigation would not be considered significant.

- Seabed disturbance – the area impacted by the spud cans of the jack-up rig totals 464m^2. The GSF Labrador will be on site for a maximum of 57 days. The maximum area impacted by cuttings and mud discharged at the seabed will be contained within a radius of 50m, which equates to 0.000785km^2. Those discharged at the sea surface will have an overall seabed impact of a 300m by 60m oval area (cuttings thickness of 1mm >), which equates to an area of 0.018km^2.

  Scars from the spud cans may be evident up to 12 months after removal, however biological recovery is likely to be rapid and therefore impacts from the spud cans is considered to be minor and temporary in nature. A combined impact area from the spud cans and rig stabilisation is estimated to be 1473m^2.

  The total impact area is therefore approximately 0.019473km^2, which represents 0.00045% of the total area of the North Norfolk Sandbank and Saturn Reef pSAC.

  Impacts from the cuttings discharges will be minimal as the material is expected to be thinly spread and the greater part will become rapidly re-distributed by tidal flows and therefore increased deposition will be temporary in nature. In addition, the benthic communities in the vicinity of the proposed operations are not considered to be sensitive to increased deposition.

  Based on the evidence provided in the ES, the impacts on the seabed are considered not to be significant.

- Noise – the drilling activity and support vessels will produce noise during operations, lasting approximately 33 days. Though noise will be discernable to marine mammals over a wider area, drilling activity will be planned to last as short a time as possible and impacts will be minimal and insignificant. A VSP survey is also planned, but with mitigation applied i.e. use of MMO's the potential of adverse affects on cetaceans is minor.

- Atmospheric emissions – these will be produced during drilling operations as a result of power generation. Emissions will also be produced during well clean-up and testing operations. Due to the relatively small scale of operations, atmospheric emissions are not considered to have a significant impact either locally or globally.

- Marine discharges – the only foreseeable discharges associated with the proposed operations are those through the drilling operation. All chemicals and mud used are CEFAS registered and are not considered to be significantly harmful to the environment. No LTOBM will be discharged to sea.

- Accidental events – The risk of any large scale oil spill during drilling is very low. Small to medium diesel or OBM spills are a more common. Modelling conducted to assess diesel spill impact concluded that it would have a minor local impact. Silverstone Energy plan to have an approved Oil Spill Contingency Plan in place before any operations commence.

- Cumulative Impacts – The cumulative impacts from the proposed operations are negligible due to the extent of existing infrastructure in the area.

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. The following comments were made:

JNCC: On the basis of the information provided JNCC could not concur the conclusions of the ES with respect to the presence of *Sabellaria spinulosa* being a reef habitat. Additional information from the survey was provided to confirm no reef structures were present. In addition, it was advised that an Appropriate Assessment screening should be undertaken by DECC. This was undertaken and it was concluded that the Vulcan North West Exploration Well is unlikely to have a significant effect alone or in combination with other projects upon the integrity of the potential Natura 2000 site, the North Norfolk Sandbanks and Saturn Reef pSAC or any Annex I habitats or Annex II species. Recommendation for approval was given.

CEFAS: There are currently no restrictions on drilling or seismic activity in this block during the period suggested. Recommendation for approval was given.

Further Information: In addition to the consultee comments a number of issues were highlighted by DECC and further information was requested.

Venture North Sea Gas Limited provided the additional information requested and where appropriate, acknowledged comments and committed to incorporating them in future submissions All issues were considered satisfactorily amended and clarified.

Conclusion(s):

Following consultation and the provision of the additional information on the 27th November 2008, 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.

S Pritchard..... 05/12/2008.....

Sarah Pritchard **Date**