

**BHP Billiton Petroleum Limited.
Lennox Field Production Increase Well
Environmental Statement Summary**

To: Sarah Pritchard

From: Sarah Dacre

Date: 9 June 2009

ES Title:	Lennox Field Production Increase
Operator:	BHP Billiton Petroleum Limited
Consultants:	Jos Tissen (TINA Consultants)
Field Group (DECC):	London
ES Report No:	W/4039/2009
ES Date:	February 2009
Block Nos:	110/15
Development Type:	Single development well and increase in production

Project Description

The project comprises:

- The drilling of a single dry gas development well to a depth of 1,602m below the seabed using the ENSCO 92 jack-up drilling rig;
- The well being drilled using Water Based Mud (WBM), which will be discharged at surface;
- The drilling period is estimated to be 80 days and is scheduled for July – September 2009.
- The increase of production at the Lennox platform of 636,000 m³ of gas.

Environmental Sensitivities

The EIA identified the following environmental sensitivities:

- High shipping activity;
- High fishing activity;
- Fish spawning area for herring, sole, lemon sole, *Nephrops*, plaice (peak in January and February), sprat (peak in May and June) and cod (peak February and March). There are currently no restrictions on drilling or seismic activity in this block during the drilling period proposed.
- Seabird vulnerability is very high between December and March, high in August to July and September to November.
- Low numbers of cetaceans have been recorded;
- Annex I Habitats: Site surveys did not identify any potential Annex I habitats within the vicinity of the proposed project.
- Annex I Species: red-throated diver occurs within the vicinity of the proposed operations.
- Annex II Species: harbour porpoise and bottlenose dolphin occurs in low numbers, mainly in the summer months;
- Protected sites: The proposed operations are within the boundary of the proposed Liverpool Bay Special Protection Area (pSPA). The area qualifies for designation under the EC Birds Directive as it supports an internationally important population of common

scoter and is an area regularly used by the red-throated diver, an Annex I species.

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.
- 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 drilling rig will be positioned within the 500m safety exclusion zone of the Lennox platform and therefore there will be no incremental impacts.
 - (ii) *Mud and cuttings discharge* - Drilling operations at the Lennox well will include the use and discharge of WBM mud and cuttings to the sea-surface. A worse case scenario of 1012 tonnes of mud and cuttings will be discharged at the sea surface.

Modelling conducted for a previous well (IESL, 2000) is thought to be comparable to the proposed well. The rate and cuttings size distribution are expected to be similar, leading to a similar initial area of deposition and initial settling pattern. The initial deposition (thickness of cuttings up to 1mm) is estimated to cover an area 0.04km².

Studies have shown that impacts from smothering can occur where the depth of cuttings is 1mm or more (Bakke *et al.*, 1986). There is unlikely to be any noticeable smothering or impacts on the benthic fauna and flora. In addition, due to the shallow waters and sandy nature of the sediment re-suspension and re-distribution of cuttings will take place and recovery of the area will occur soon after drilling ceases.

- Noise – the drilling operations and the presence of standby vessels and helicopter traffic will produce noise for the duration of the proposed activities. It is unlikely that marine mammals or seabirds will be disturbed or displaced from the area.
- 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. Given travel times of vessels, the number of vessels required and drilling time being optimised emissions will be negligible. In addition, all equipment and generators will be well maintained to ensure optimum efficiency. Any increase in production will only halt the decline of the predicted production volumes, producing a slight increase in 2010. No additional processing capacity will be required with respect to the production increase therefore there will be no increase in the atmospheric emissions at Lennox as a result of the increase in production.
- Marine discharges – the only foreseeable discharges are associated with the proposed drilling of the Lennox L14 well and the associated increase in production. 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. There will be no increase in produced water or chemicals as a result of the increased production.
- 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) and an Emergency Response Plan (ERP).

- Cumulative Impacts – There are a number of proposed operations being considered within the vicinity of the Lennox well, however it is unlikely that operations will be conducted simultaneously and therefore the Lennox development well is unlikely to have a significant effect in combination with other projects.

Public Consultation: Comments were received as a result of the public consultation from the following:

Countryside Council for Wales

CCW were satisfied that there would be no significant impact from the proposed operations and production increase and had no objections to the project going ahead. However, given the increasing pressures on the marine environment, CCW advised that the baseline data is due for revision and updating.

Merseyside Environmental Advisory Service (Sefton MBC)

On the basis of the information provided and their own knowledge of the area it was concluded that proposed project would not give rise to unacceptable environmental impacts providing mitigation measures and best practice was adhered to. In addition, it was recommended that a screening for an Appropriate Assessment be undertaken.

Consultee(s):

The statutory consultees for this project were Natural England (NE)/JNCC and CEFAS. The following comments were made:

NE/JNCC: Concerns were expressed regarding the fact the area is a moulting ground for common scoter, which could make them more vulnerable to disturbance, however NE is of the opinion that if the drilling program is completed within the 3rd Quarter then it is unlikely there will be a significant effect on the interest features of the pSPA. If however this cannot be guaranteed it is difficult to reach the same conclusion. With respect to this, NE advised DECC to undertake an Appropriate Assessment screening exercise, including the indirect impacts on common scoter with respect to loss of feeding habitat through cuttings discharge.

NE confirmed that enough information was provided to conclude negligible impact of this application on the nature conservation aspects of the Liverpool Bay pSPA.

It was also advised that the comments included in NE's response should be addressed in any future oil/gas applications in the East Irish Sea area and DECC concurred this.

CEFAS: There are no fisheries related restrictions covering this Block during the proposed works period. Recommendation for consent was issued.

Further Information: A number of issues were highlighted by DECC, including a request for further information to inform the Appropriate Assessment screening.

BHP Billiton Petroleum 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.

Determination of significant effects/Appropriate Assessment

Drill cuttings will cause a maximum worst case depositional area of 0.04km² down to a depositional thickness of 1mm, which represents 0.0028% of the total area of the Liverpool Bay pSPA. Deposition will be temporary in nature due to the dynamics of the area and therefore the area of the pSPA impacted can be considered to be significantly less, if not negligible. In terms of the common scoter, drilling activities may disturb a potential food source in an area totalling less than 1% of the pSPA area (cuttings deposition >1mm), although this will be temporary. The overall size of this area is considered to be insignificant when compared to the remainder of potential feeding areas available for scoter within the pSPA, particularly over the Shell Flat bank. In addition, the cuttings themselves will be particles of sedimentary material, similar in nature to the sand and gravel already found in the area and that this would not be deposited quick enough to smother benthic animals and dispersion would be rapid due to the high wave and tidal action. The cuttings and mud material are comprised of materials that are almost naturally occurring and environmentally benign in nature. Bearing this in mind, it is very likely that any impact on potential food sources would be negligible.

In conclusion, the Lennox 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 Liverpool Bay pSPA. On this basis, an Appropriate Assessment is not required and therefore no further information is required from BHP Billiton Petroleum Limited.

Conclusion(s):

Following consultation, the provision of additional information on the 20th April and 8th May and the conclusions of the Appropriate Assessment screening, 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
Sarah Pritchard

Date 10 June 2009