

**Apache North Sea Limited.
Bacchus Field Development
Environmental Statement Summary**

To: Sarah Pritchard

From: Sarah Dacre

Date: 15 April 2010

ES Title:	Bacchus Field Development
Operator:	Apache North Sea Limited
Consultants:	RPS Energy HSE and Risk Management
Field Group (DECC):	Aberdeen
ES Report No:	D/4066/2009
ES Date:	December 2009
Block Nos:	22/6a
Development Type:	3 production wells from the Bacchus field tied back to Forties Alpha (FA)

Project Description

The project proposed is the development of the Bacchus Field in Blocks 22/6a in the Central North Sea. The proposed development will include:

- the drilling of 3+ production wells using a jack-up rig;
- the transfer of fluids via a 6.5km pipeline bundle to FA;
- production of the wells at the Forties Alpha platform, where the expected field life is 15-20 years;
- the first well spudding and pipeline installation is planned for Q1 2011.

Environmental Sensitivities

The EIA identified the following environmental sensitivities:

- The proposed Bacchus development will result in obstacles to other marine users during the pipeline installation and drilling of the wells. There will be a designated 500m exclusion zone from the rig and the well head structure once the rig has been moved;
- High fishing activity;
- Fish spawning area for lemon sole (April to September), Norway pout (January to April), and *Nephrops* (all year);
- Seabird vulnerability is very high in September to November and high in July and August;
- 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: No Annex I species have been recorded in the vicinity of the proposed operations.
- Annex II Species: harbour porpoise have been sighted in the vicinity of Blocks 21/10 and 22/6 in low numbers between July and September, with peak sightings in March.
- Protected sites: The proposed operations are located over 186km away from the nearest coastal protected site and c.140km from the Braemar Pockmark pSAC, the nearest offshore protected site.

Key Potential Environmental Impacts

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

- Obstacles to other marine activities during operations – the Bacchus development wells will be drilled from a jack-up rig. A 500m exclusion zone will be placed around the rig and the wells, which will have well-head protection structures. The pipeline bundle will be over-trawlable. It is unlikely that the Bacchus development will be any significant obstacle to other users of the sea.
- Seabed disturbance – As a result of the proposed development and associated activities there will be a disturbance to the seabed through:
 - (i) *Mud and cuttings discharge* – It is estimated that each of the development wells will generate a maximum total of 1389 tonnes (4167 tonnes in total) of cuttings, with 817.9 (2453.7 tonnes in total) tonnes discharged to sea. The remaining cuttings will be slurried and transported to one of the nearby Forties installations for re-injection or returned to shore for appropriate disposal. Modelling used to estimate the deposition of drill cuttings predicts that 95% of the cuttings will be found at a distance of 8.5km from each well head. The cuttings pile will be orientated along the north-west axis. The maximum predicted depth of cuttings at each location is predicted to be 22.4mm, confined to the area around the wellhead. Impact smothering usually occurs where the depth is 1mm or more and will be temporary in nature and the area will make a full recovery due to dispersion and movement of the cuttings.
 - (ii) *Footprint of drilling rig* – sediments and seabed communities will be disturbed by the presence of the rig. Disturbance will be over a very limited area, approximately 462m² and a limited duration of a maximum of 200 days. Re-colonisation is expected to occur over a relatively short period of time after the rig has moved away. There are no Annex 1 habitats or species in the vicinity of the proposed operations. The footprint of the drilling is unlikely to have a significant effect on the marine environment.
 - (iii) *Pipeline installation* - impacts relating to the installation and presence of the pipeline are expected to be negligible. The 37.5", 6.5km bundle is proposed to be laid directly on the seabed which will equate to an area loss of 0.006km². No trenching, burial or sediment backfill is proposed. In addition, the selection of the pipeline bundle option ensures the required size of the installation corridor is significantly narrower than could be achieved if separate lines were installed.
- Noise – the noise expected to be generated from drilling operations is 163dB and the supporting vessels are likely to generate a noise level of 170dB. The levels are not expected to exceed the behavioural response threshold of the cetaceans found in the area of Bacchus. Any impacts on cetaceans will be negligible, particularly given the low level of cetacean activity within the vicinity of the area at the time of operations and the localised, temporary nature of the drilling and installation operations.
- Atmospheric emissions – As a result of drilling activities and the pipeline installation the estimated total fuel use is 4760 tonnes of diesel. The estimated emissions resulting from this are equivalent to other ship at sea activities and will disperse rapidly and on a global scale potential impacts are considered to be negligible. During production of the Bacchus Field there will be routine emissions from gas power generation, however this will equate to approximately 3% of the current annual Forties Field emissions.
- Marine discharges – the only foreseeable discharges are associated with the proposed

drilling of the Bacchus wells and the production phase at the FA is the use/discharge of drilling fluids, well clean-up chemicals and produced water. All chemicals are CEFAS registered and are not considered to be significantly harmful to the environment. There is also adequate capacity for the Bacchus produced water to be re-injected.

- Accidental events – A number of control measures will be in place to minimise the risk of accidental events such as bunkering, well monitoring, BOP and well control training. In addition, an Oil Pollution Emergency Plan (OPEP) and an Emergency Response Plan (ERP) will be prepared and submitted.
- Cumulative Impacts – The area of the Bacchus development has been subject to and continues to be subject to development, including drilling operations. There are no cumulative impact issues associated with the Bacchus development.

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. The following comments were made:

JNCC: Recommended approval. Data from the proposed 2010 surveys will be expected to inform the PON15B and PON15C applications.

MS: Recommended approval. MS considered the environmental description to be well constructed.

Further Information: A few minor clarifications were sought from Apache, as well as clarification on production figures.

Apache provided the additional information requested and provision of more up-to-date survey data will be within subsequent applications. Survey work will be completed in 2010.

Conclusion(s):

Following consultation and the provision of the additional information on the 12th April 2010, DECC and its consultees are satisfied that the development of the Bacchus Field 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

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Date