

Apache North Sea Limited
Forties Field Production and Continuing Development Including the
Installation of the Forties Alpha Satellite Platform.
Environmental Statement Summary

Title:	Forties Field Production and Continuing Development Including the Installation of the Forties Alpha Satellite Platform
Operator:	Apache North Sea Limited.
Consultants:	Hartley Anderson Limited.
Report No:	D/4115/2011
Submission Date:	June 2011
Quad/Block No:	21/10 and 22/6
Project Type:	Development Extension
Reviewer:	Sam Coupland
Date:	24 October 2011

A) Project Description

The proposed activities include the introduction of partial processing of produced fluids on Forties Bravo and the installation of a bridge linked satellite platform adjacent to the Forties Alpha platform (the Forties Alpha Satellite Platform (FASP)). This will 'de-bottleneck' processing and pipeline transport of Forties Bravo fluids, currently undertaken on the Forties Charlie platform, and provide additional well slots to maximise Forties Field production. Partial processing is planned to commence during 2012, with the FASP installation planned for mid 2012.

The Environmental Statement also considers the extension of the Forties Field production consent from 2012 to 2029, during which period the oil production will initially increase from 9,860 m³/d to 11,832 m³/d.

B) Key Environmental Sensitivities

The EIA identified the following environmental sensitivities:

- Fish stocks: The area is within spawning grounds for Lemon Sole (April to September), Norway Pout (January to April) and Mackerel (May to July);
- Seabirds: Seabird vulnerability is very high from September through to November, high in July and August and moderate to low for the rest of the year;
- Annex I Habitats: There are no designated Annex I habitats within the area, although seabed mapping surveys over the last 10 years have confirmed the presence of a number of pockmarks in the Forties area, particularly in the deeper water areas;
- Annex II Species: Harbour porpoise and grey seals (infrequently and in small numbers) are found in the area;
- Other users of the sea: The Forties area lies to the south of a large area of moderate to high fishing effort; Shipping traffic in the area is moderate.

C) Key Environmental Impacts

The EIA identified the following potential impacts and related mitigation measures:

Physical interference: Appropriate mitigation measures will be put in place, e.g. 500m safety zones around the FASP, drilling rigs and wellheads, Kingfisher Bulletins, Notices to Mariners etc. to notify other users of the sea, and any impact is considered to extremely limited because of the

relatively low levels of shipping and fishing activity in the immediate vicinity of the existing Forties facilities.

Seabed disturbance: A number of the proposed activities will impact the seabed, the most significant being the footprint of the FASP; the spud can depressions and anchor spreads of the drilling rigs; the disturbance of existing drill cuttings during installation of the FASP and the location of the drilling rigs; and the deposit of cuttings during the drilling of the anticipated 18 FASP wells. The species composition of the faunal community in the sediments in the Forties area indicates that it is likely to be relatively resilient to the effects of sediment mobilisation and deposition, and would recover rapidly from the seabed disturbance. The predicted drill cuttings settlement levels outwith the immediate vicinity of the platform facilities are also anticipated to be comparable with levels resulting from natural erosion and deposition, and unlikely to have any significant smothering effect. Apache North Sea Ltd (Apache) would also intend to undertake ROV inspections and to remove any dropped objects, to further minimise seabed disturbance.

Noise: FASP piling operations will result in a calculated sound pressure level (SPL) of approximately 184dB at a distance of 500 metres (m) from the proposed operations. A soft-start procedure will be implemented to allow any marine mammals to migrate away from the sound source.

Atmospheric emissions: The new power generation equipment on the FASP will increase power generation capacity for the Forties Field by 25%. These new units will be tied into the existing Forties Field power ring-main, controlled and monitored from Forties Alpha to maximize efficiency. During the drilling of the wells and the FASP installation, there will also be a number of additional emission sources, e.g. the drilling rig, stand-by vessels, heavy lift vessel etc. Flare emissions have already been significantly reduced compared with historic levels, and the levels will continue to fall as a result of more efficient use of the native fuel gas. Whilst total Forties emissions are projected to increase in coming years, as is normal for a mature field, the scale of the potential increase is considered unlikely to have any significant impact on local, regional or global air quality.

Marine discharges: Produced water volumes are anticipated to increase as a result of field maturity and the increased Forties production. Produced water re-injection (PWRI) will be increased from 31,000 m³/d to 55,600 m³/d to partially offset the increase in the volume, but produced water discharges will also increase from 60,000 m³/d to a peak of 80,000 m³/d. However, the introduction of a produced water polishing unit on FASP is anticipated to maintain the oil in water content of the discharge at less than 20 mg/l. The addition of partial processing on Forties Bravo and the enhanced production via the FASP will also result in a small increment in annual chemical usage, proportional to the production of fluids. However, all chemicals are selected by Apache on the basis of technical compatibility and environmental performance, and the marine environment in the area is sufficiently dynamic to facilitate rapid dispersion of any discharges. A more detailed risk assessment of all proposed chemical use and discharge relating to the proposals will be included in the subsequent applications for chemical permits.

Accidental events: A number of control measures will be in place to minimise the risk of accidental events, and Apache will develop an Oil Pollution Emergency Plan (OPEP) and Emergency Procedures Plan (EPP). Modelling of a blow-out spill and diesel spill has been undertaken and included in the EIA.

Cumulative Impacts: The area of the proposed development includes a range of oil and gas operations, in addition to shipping and commercial fishing operations. However, it is considered unlikely that the development will have a significant effect in combination with other projects.

Transboundary Impacts: The UK / Norway median line is approximately 74 km from the development area. No transboundary impacts are likely as a result of operational activities, but in the event of an oil spill entering Norwegian waters, it may be necessary to implement the NORBIT Agreement (the Norway-UK Joint Contingency Plan).

D) Consultation

Comments were received from the Joint Nature Conservation Committee (JNCC) and Marine Scotland (MS). The ES was also subject to public notice.

JNCC: JNCC were content that the ES should be approved, but requested that further information should be provided in relation to the pockmarks in the Forties area in future environmental submissions, and that the FASP piling operations should be undertaken in compliance with the revised JNCC guidelines.

MS: MS was content that the ES should be approved.

Public Notice: No comments were received in response to the public notice.

E) Additional Information

Further information was requested to clarify a number of minor issues. Apache provided the requested information on 7 October 2011 and, where appropriate, committed to take account of the comments in future submissions. All the issues were satisfactorily addressed.

F) Conclusion

Following consultation and the provision of the additional information, DECC OED is satisfied that the project will not have a significant adverse impact on the receiving environment or the living resources it supports, or on any protected sites or species or other users of the sea.

G) Recommendation

On the basis of the information presented within the ES and advice received from consultees, DECC OED is content that there are no environmental or navigational objections to approval of the proposals, and has advised DECC LED that there are objections to the grant of the relevant consents.

Approved: Wendy Kennedy – Director, DECC Offshore Environment and Decommissioning

Wendy Kennedy

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Date: 26/10/2011