Gaz de France E&P UK Ltd
Cygnus Field Development.
Environmental Statement Summary

Title:	Cygnus Field Development.
Operator:	Gaz de France E&P UK Ltd (GdF)
Consultants:	Metoc Limited.
Report No:	D/4119/2011
Submission Date:	October 2011
Quad/Block No:	44/11a and 44/12a
Project Type:	New Field Development.
Reviewer:	Sam Coupland
Date:	05 March February 2012

A) Project Description

GdF intend to develop the Cygnus Field by installing Cygnus Alpha (A), a permanently manned structure consisting of three bridge-linked platforms with a central production, processing and accommodation facility; and Cygnus Bravo (B), a normally unmanned satellite wellhead platform. Ten gas production wells will be drilled, three of which may require hydraulic fracturing to improve flow rates. Produced gas will be exported via a new 51 kilometre (km), 24" pipeline to the Trent Platform, where it will enter the ETS pipeline to the Bacton terminal. A 5.9 km intra-field pipeline and associated subsea infrastructure will also be installed. It is planned that construction will start in April 2014 with first gas expected in September 2015.

B) Key Environmental Sensitivities

The EIA identified the following environmental sensitivities:

Fish stocks: The area is within spawning grounds for Sole (March to May), Plaice (December to March), Sandeel (November to February), Sprat (May to October), Mackerel (May to August) and Nephrops (year round).

Seabirds: Seabird vulnerability to surface pollution is very high or high from September to April and moderate to low for the rest of the year.

Annex I Habitats: The Cygnus A and B platforms, intra-field pipeline and the first 40km of export pipeline either border, or traverse, the Dogger Bank candidate Special Area of Conservation (cSAC).

Annex II Species: Harbour Porpoise, White-beaked Dolphin, Minke Whale, and Common and Grey Seals may be found within the development area.

Other users of the sea: There is relatively moderate fishing effort in the Cygnus area, and shipping traffic in the area is very high.

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. 500 metre (m) safety zones around the platforms and drilling rig;, and Kingfisher Bulletins and Notices to Mariners etc. to notify the construction activities to other users of the sea. Despite the very high shipping traffic in this area, the majority of activities during both the construction and production phases have been assessed as having minimal impact on shipping and navigation.

Seabed disturbance: A number of the proposed activities will impact the seabed, the most significant being the footprint of the new platforms and gas pipelines; the spud can depressions of the drilling rig; and the deposit of cuttings during the drilling of the anticipated 10 production wells. The relatively limited scale of the disturbance, and the inferred general resilience of the seabed habitat and associated species, leads to the conclusion that there will be no significant adverse effects. Although a dynamically-positioned pipelay vessel is the preferred option; there is the possibility that an anchor lay barge may be used, which would increase the spatial effect of the seabed disturbance. However, even with this additional impact, the overall footprint of the Cygnus development comprises less than 0.01% of the Dogger Bank cSAC.

Noise: The major source of underwater noise during the development phase will be from driving the construction piles and the well conductors. Although noise levels are predicted to exceed indicative disturbance thresholds; the duration of each piling operation is short (less than two days at a time) and considered unlikely to have a sustained or chronic impact. There is therefore considered to be a negligible risk of disturbance or residual impact on marine mammals.

Atmospheric emissions: The main atmospheric emissions associated with the development and operation of the field are the combustion products from power generation and engine use on the platforms, the drilling rig, the pipe-lay vessel, other associated vessels and helicopters. Power generation for the Cygnus development will be provided by two dual fuel turbines on Cygnus A, run predominantly on fuel gas. A compression module will also be installed to maintain export gas pressure. Various well tests are also proposed, during which produced hydrocarbons will be flared resulting in atmospheric emissions, including extended well tests of up to 10 days for the three wells which will be hydraulically fractured. The scale of these emissions is considered unlikely to have any significant impact on local, regional or global air quality.

Marine discharges: The volume of produced water generated by Cygnus development is relatively low, and is anticipated decrease with time. Any entrained condensate will rapidly disperse and biodegrade in the surrounding water column. Historic research has shown that, due to the rapid dilution, and the low concentrations and toxicities of the contaminants in the produced water, there is a low potential for biological impact. Dilution resulting in no observed effect concentrations (NOEC) will be achieved within five minutes, and between 10m to 100m from the discharge point. It is therefore anticipated that there will be little or no residual hydrocarbon contamination relating to the project, or cumulative impacts. Modelling of drill cuttings disposal has also been undertaken, and it is anticipated that dispersed drill cuttings would become indistinguishable from natural sediments within 4.6 km of the well location.

Accidental events: A number of control measures will be in place to minimise the risk of

accidental events, and GdF 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 ES.

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 / Netherlands median line is approximately 35 km from the development area. Transboundary impacts are unlikely, even in the case of a worst-case release scenario as any spilt hydrocarbons would disperse or evaporate 32 km from the closest international boundary.

D) Consultation

Comments were received from the Joint Nature Conservation Committee (JNCC), The Ministry of Defence (MOD), the Maritime and Coastguard Agency (MCA) and The Centre for Environment, Fisheries and Aquaculture Science (CEFAS). The ES was also subject to public notice.

JNCC: JNCC recommended that a Screening Assessment should be undertaken to confirm whether the development would have a significant impact on the qualifying features of the Dogger Bank cSAC. The assessment concluded that the Cygnus Field Development will not, on its own or in combination, have an adverse effect on the structure, function and integrity of the Dogger Bank cSAC. JNCC also raised concerns over possible cumulative noise effects with a nearby windfarm project, but mitigation measures will be taken to minimise the potential for piling to occur at both developments at the same time.

MOD, MCA and CEFAS**:** All three organisations were 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. GdF provided the requested information on 04 January and 24 February 2012. All the issues were satisfactorily addressed and, where appropriate, GdF committed to take account of the comments in future submissions.

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: Sarah Pritchard, Acting Director, DECC Offshore Environment and Decommissioning

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Date: 05/03/2012