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Consents given under the Petroleum Act 1998 and Reviews under the Assessment of Environmental Effects Regulations 1999

BG Group

BLAKE FIELD

Pursuant to Regulation 5(8) of the above Regulations, the Secretary of State for Trade and Industry gives notice that, being content that the requirements of the above Regulations have been satisfied, he has, pursuant to Licences P810 & P729, granted a consent to BG International Limited to the getting of petroleum and the construction of installations in relation to the development of the Blake field. The consent for the Blake field took effect from 10/01/00 and shall last until 31/12/15.

Background

BG International Limited (BG) and its partners plan to develop the Blake oil field in the Outer Moray Firth, some 65 km north-east of Fraserburgh. Oil and gas exploration in the area started in 1970. The principal product from Blake is a medium to light crude containing no dissolved hydrogen sulphide; the gas produced will be used in the field and excess exported for sale. The wells will be connected by subsea pipelines to an existing FPSO, the 'Bleo Holm', already located 9.5 km to the south west, in the Ross Field (Block 13/28a). This choice was based on the significant safety, economic and environmental benefits of using an existing facility, as opposed to a dedicated facility for the Blake Field. The export of oil is by shuttle tanker and associated gas via an existing 6" pipeline to the Frigg trunkline to St. Fergus. The Bleo Holm will be upgraded to handle the Blake Field production.

Drilling and Well Completion

Drilling

It is BG's aim to use water base mud wherever technically feasible. However, the use of high angled, directional wells can cause problems in water sensitive formations. These can be controlled with the use of an oil based drilling mud or SBM. The Blake wells have been designed so that WBM systems can be employed during the drilling of all hole sections.

Estimated weight (tonnes) of Cuttings per Well

Hole Diameter (in)	P1	P2	P3	P4	P5	P6	11	12
36	150	150	150	150	150	150	150	150
16	339	333	304	330	383	310	305	310
12.25	169	176	159	162	207	157	N/A	N/A
12.25 sidetrack	62	76	67	65	68	64	N/A	N/A
8.5	78	72	70	81	76	72	186	71
TOTAL	798	808	751	789	884	755	642	532

Total estimated weight of cuttings: 5960 tonnes, about 745 tonnes per well.

While drilling the top section of each well, seawater and rock cuttings will be discharged directly to sea. All subsequent sections will have the mud cuttings returned to the rig where the cuttings are removed and the cleaned mud reused. Various options for cuttings disposal were considered and given the low potential

impact, discharged to sea was chosen.

Well completion

Details of chemicals utilised are discussed in the ES. The volume discharged for each well could be up to 300 cubic metres per well. Following completion, the producing wells will be brought on stream and flowed for up to 48 hours until a stable flow regime is established. Hydrocarbons produced during well clean-up will be flared from the drilling rig.

Incremental Effect of Blake Field on the FPSO Bleo Holm

Modifications to the Bleo Holm to handle Blake fluids have yet to be finalised, however no new flowline risers will be required. To accommodate the extra production capacity required to manage the Blake, the required equipment will be fitted in port, over a period of three months and will thus have no effect on the offshore environment. The environmental effects of the Ross development and the FPSO Bleo Holm have been considered in the 'Environmental Assessment of the Ross Field Development'. Incremental effects due to the Blake field are adequately considered in the ES and the Oil Spill Contingency Plan will be up-dated accordingly.

Decommissioning

At the end of the economic life of the Blake Field, the wells will be plugged and abandoned. All associated facilities above the level of the seabed will be removed for re-use or disposal onshore. Detailed plans will be developed in accordance with the existing regulatory regime and best industry standards at the time.

Environmental Sensitivities and Impacts

Potential environmental hazards have been identified for the main stages of the planned development. The main interactions include:

Atmospheric emissions. The magnitude of the emissions is small and will not have a perceptible effect on air quality in the area.

- Effects on seabed fauna, (mainly smothering) will be minor, localised, with recovery commencing immediately upon completion of drilling.

Effects on the seabed fauna due to disturbance during installation operations will affect a small area of seabed with rapid recovery once installation complete.

- Effects of produced water discharge on marine flora and fauna will be local, temporary, with recovery beginning immediately upon end of production.
- Effects upon fisheries will be limited to the exclusion zone for the life of the field. Consultation with fisherman is continuing.

Effects of noise upon cetaceans during construction phase will be small and short-lived. It is not expected to have any effect upon the nearshore animals.

- Effects upon seabirds of normal operations will be negligible. Concerns raised by consultees adequately answered by BG.

An approval oil spill contingency plan will be in place for the drilling operations; the OSCP for the Bleo Holm FPSO will be updated to take account of the addition of the Blake Field facilities.

Testing and commissioning of the flowlines will result in a single discharge of test water, containing traces of biocide dye and corrosion inhibitor. Local water currents will rapidly dilute this.

Recommendation

The document provides a good description of the proposed development, the environment in the vicinity of the development and mitigation of potential impacts. BG have responded promptly and comprehensively to concerns raised by the consultees. Recommend that consent be given.