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

Texaco

CAPTAIN EXPANSION 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 Licence P324 and P635 granted a consent to Texaco North Sea U.K. Limited to the getting of petroleum and the construction of installations in relation to the development of the Captain Expansion Field. The consent for the Captain Expansion field took effect from 27/01/95 and shall last until 31/12/04.

Background

The objectives of Stage 2 are to access reserves over the eastern part of the field [Area B] and to upgrade the throughput capacity of the production system to 15,900m³ oil per day and 63,600m³ water per day. Area B reserves will be accessed from subsea wellheads 2.2 Km east of the FPSO. Pipelines will connect the wellhead to the bridge-linked platform BLP "A". Higher levels of associated gas will be produced over the Stage 1 Development.

Drilling

In order to exploit the Area "B" Captain reservoirs, a development drilling programme will be undertaken from two locations. Drilling muds are not selected, but wbm will be used for top hole sections of all the wells. However, OBM/SBM may be used. A phased reduction strategy will be applied to SBM's and OBM'S will be disposed of to comply with legislation.

Well Clean-up

Base case (4 wells over a 9 month period): crude oil = 6360m³.

Worst case (12 wells over a 2 yr period) crude oil = 19,080m³

VOC's, worst case (over a two yr period) = 440.10 te/yr.

Decommissioning

In accordance with Regulations applicable at the time, plus all equipment above the seabed will be removed.

Production Issues

Gas will either be re-injected early in the life of the field for subsequent production in later years *or* export of the gas via the Frigg pipeline system to St Fergus.

Produced water disposal will be by injection back into the reservoir. However some overboard discharge will be required for operational reasons

Other Issues

Chemicals Discharges

Chemicals discharges will be minimised due to the re-injection option; polymers and solvents used in the EOR programme will be re-disposed in the produced water re-injection scheme.

VOC Emissions

VOC emissions are due to offshore loading at the FPSO and the shuttle tanker. Total VOC emissions from offshore storage, loading and export are estimated at 1665te/yr. Methane emissions are 30te/yr. VOC recovery is not thought to be practical by the operators

Environmental Sensitivities

Significant effects were confined by the operators to:

WBM discharges and possible environmentally sound (non-specified) sbm disposal.

Potential oil spills mitigated by stringent (operator's words) control procedures.

- Re-injection of produced water with minimal (5%) overboard discharges.
- Gas re-injection in early field life for subsequent production in later years.

The alternative option of exporting the gas via the Frigg pipeline system to St Fergus was not covered adequately in the ES. Waste heat recovery units will be used on GT's which will result in lower emissions and lower diesel consumption in the field's later life. As long as re-injection is used for the disposal of the produced water, then environmental impacts due to production water chemicals/EOR chemicals and entrained oil will be minimal. However, if this option fails for any reason, the environmental implications would be significant. The risks of oil spills due to the use of shuttle tankers has not been adequately covered, but will be presumably addressed in the oil spill contingency plan.

Cumulative effects are not considered in sufficient detail.

Recommendation

Overall, the ES is satisfactory and adequately assesses the potential environmental impacts of the proposed development. Recommend that consent for the development is given.