

WESMINCO OIL PTY LTD WA-149-P

OFFSHORE OIL PRODUCTION

ENVIRONMENTAL PROTECTION AUTHORITY REPORT

FEBRUARY 1987

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1. BACKGROUND

Wesminco Oil Pty Ltd as operator of WA-149-P has defined three small offshore oilfields, Chervil, North Herald and South Pepper, between Onslow and Barrow Island. Recoverable oil reserves are estimated at 1.7 million kl.

An Environmental Review and Management Programme (ERMP) dealing with a proposal to develop the oilfields was considered by the Environmental Protection Authority in 1985. The resulting Authority's report (Department of Conservation and Environment, Bulletin 210) is appended to this report.

The initial project involved platforms on the South Pepper, North Herald and Chervil oilfields with pipelines to processing and storage facilities on Airlie Island. The major issues raised during the public review period concerned the effects of the Airlie Island installations on bird life and turtles. The effects of the gas flare were of particular interest. As a consequence of these misgivings a number of submissions stated that more consideration should be given to alternatives such as offshore processing/storage facilities or an offshore flare.

Following submission of the ERMP, estimates of reserves in the fields were downgraded and the development did not proceed because of economic uncertainty. Evaluation of the fields was continued and the Company has now developed a proposal which it believes is feasible. An updated version of the Company's ERMP was submitted in November 1986. A copy of this document is held in the Authority's library and is available for loan.

2. PROJECT

The proposal now involves development of the South Pepper and North Herald oilfields with processing and accommodation on a production platform on the South Pepper field and storage facilities on Airlie Island. A tanker loading terminal adjacent to the island would discharge crude oil into tankers. The Company estimates that some 805 000 kl (approximately 25% of the oil in place) could be produced over the two year minimum life of the project.

Table 1 summarises the differences between the previous and current proposals.

Table 1. Comparison of old and current proposals

ASPECT	OLD	NEW
Oilfields	South Pepper, North Herald, Chervil	South Pepper, North Herald
Processing (incl flare)	Airlie Island	South Pepper
Accommodation	Airlie Island	South Pepper
Recoverable oil	1.7 million kl	0.8 million kl
Production time	5-7 year	2 year or more
Produced water (max 50 pp oil)	1700 kl/d	1600 kl/d
Airlie Island disturbance	10 ha	10 ha
Storage	Airlie Is	Airlie Is
Tanker loading	Mooring offshore from Airlie	Mooring offshore from Airlie
Pipeline approaches to Airlie	Trench	Tunnel
Pipe stringing	On Airlie Is	Offshore

3. ENVIRONMENTAL IMPACT ASSESSMENT

The general environmental implications of the project have been discussed in DCE Bulletin 210. Only those issues that have altered with the new project will be discussed below.

3.1 Wedgetailed Shearwaters

A major issue with the project is the temporary disruption of Wedgetailed Shearwater nesting sites on Airlie Island. There is potential for disturbing up to a third of the 2 700 nesting burrows on the island. However the proposed construction time is outside the October to April breeding period. Further, the proponent has made commitments both to confine disturbance of nesting sites and to rehabilitate disturbed areas at the cessation of the project so that soils would be suitable for nesting sites.

The flare was previously a major concern to the Authority because of potential disruption to birds and turtles. In accordance with an Authority recommendation, the flare has now been relocated offshore.

In order that the project's effects on birds could be adequately monitored it is believed that baseline and ongoing observations should be conducted on Wedgetailed Shearwaters both on Airlie and a control island.

3.2 Pipelines

Pipe stringing offshore and the proposed use of a tunnel under the reefs adjacent to the island rather than a dredged trench should minimise the environmental effects of establishing the pipe system to and from the island storage tanks.

CONCLUSIONS

The Authority considers that this short term project with all activities offshore apart for oil storage on Airlie Island would be environmentally acceptable if the following recommendations are incorporated. These recommendations are based on those of DCE Bulletin 210, modified in the light of the current project details.

5. RECOMMENDATIONS

The project would be environmentally acceptable if the proponent follows its proposed environmental management commitments and adopts the following recommendations.

5.1 Wesminco

- 5.1.1 Drilling of production wells should be in accordance with an approved oilspill contingency plan.
- 5.1.2 Regular monitoring should be conducted on the effects of the South Pepper flare on turtles and seabirds.
- 5.1.3 Disturbance and covering of bird nesting sites on Airlie Island should be minimised.
- 5.1.4 Lights on Airlie Island should be designed so that they are not visible from turtle breeding beaches.
- 5.1.5 Details of the proposed staff training and education dealing with environmental aspects should be discussed with the Department of Conservation and Environment. This training should involve both construction and permanent workforces.
- 5.1.6 The effectiveness of quarantine measures will need to be monitored.
- 5.1.7 Treated produced water should be continuously monitored to ensure no exceedance of 50 mg/l total hydrocarbon, the average 24 hour concentration being less than 30 mg/l. This accords with current Department of Mines requirements.
- 5.1.8 Rehabilitation of disturbed construction areas should be required. Topsoil should be stored for this purpose. Rehabilitation techniques should be discussed with the Department of Conservation and Environment prior to commencing trials or actual work.
- 5.1.9 Fighting of fires in vegetation should not use salt water.
- 5.1.10 Septic tank and leach drains should only be established if soil conditions are suitable.
- 5.1.11 The draft oil spill contingency plan should take into account the revised approach to the use of dispersants discussed in DCE Bulletin 104.
- 5.1.12 During the construction phase develop a spill trajectory model such as the National Plan OSSM model.

- 5.1.13 Monitoring should be finalised after discussion with the Department of Conservation and Environment. The monitoring should be designed to determine the biological effects of normal operations and accidental oil spills.
- 5.1.14 If monitoring shows unacceptable changes, alterations to the operations would be required.
- 5.1.15 Provide brief annual and comprehensive triennial reports to the Authority for review.

5.2 Government

- 5.2.1 The Department of Mines should determine a mechanism to guarantee satisfactory decommissioning and rehabilitation.
- 5.2.2 Airlie Island would receive appropriate management if vested in the State and classed as a Nature reserve.
- 5.2.3 In view of the need to minimise impacts on islands off the Pilbara coast, the State should take appropriate action to ensure that lease conditions for the petroleum facilities on Airlie Island would allow for sharing of these facilities by third parties.