

# MAUI STAGE II ENVIRONMENTAL ASSESSMENT PROCESS: ACHIEVEMENTS AND LESSONS LEARNT

Murray McLea  
Office of Parliamentary Commissioner for the Environment

The Shell BP Todd Oil Services Limited's Environmental Impact Report (EIR) for a second Maui offshore gas platform reviewed impacts and performance of the first Maui platform and the Oanui production station, and assessed new and incremental impacts which could occur. During preparation of the EIR the Company undertook a programme of consultation with central, regional and local authorities, community groups and the public. In particular a process of consultation was established with the Maori community. The opportunity to assess the value of the environmental assessment process for Maui Stage I was also given to agencies which participated in the 1973 and 1974 EIRs for the first development.

During the audit of the EIR by the Parliamentary Commissioner for the Environment, the Piper Alpha disaster occurred in the North Sea. This focused attention on whether appropriate controls for offshore platforms were being administered by public authorities in New Zealand.

Conclusions drawn from the environmental assessment process were: early consultation is important; risk assessment should be incorporated into planning and design during certification for assessing offshore installation safety; and that Government should give more guidance on performance criteria for discharges and monitoring procedures. A disappointing finding was that it was not possible to evaluate how accurate previous environmental predictions had been.

## INTRODUCTION

As a result of the Maui White Paper (Freer, 1973) there was a requirement for environmental assessment and audit of the proposed second platform for the Maui field. In response to Maui Development Limited's intention to build a second platform, Maui B, in the Maui gasfield, the Minister of Energy, in consultation with the Minister for the Environment, agreed that an environmental impact report (EIR) should be prepared. This would be audited by the Parliamentary Commissioner for the Environment.

Under Government's present interim arrangements for environmental assessment (Ministry for the Environment, 1987) the Commissioner audits projects for which commitments were made prior to the 1986 restructuring of environmental administration. The Commissioner's future role in auditing major projects will be clarified by the outcome of the current resource management law reform.

The Office of Parliamentary Commissioner for the Environment is the most recent Parliamentary Office to be established in New Zealand (1986). The most important aspect of the Commissioner's role is her independence. The Office sits outside the system of environmental administration and reports to Parliament rather than having responsibilities to Ministers of the Crown.

## THE PROJECT

The Maui B gas field location is shown in Fig. 1. It will be located 15 km southwest of Maui A. At an early meeting with Shell BP and Todd Oil Services Limited, operators of

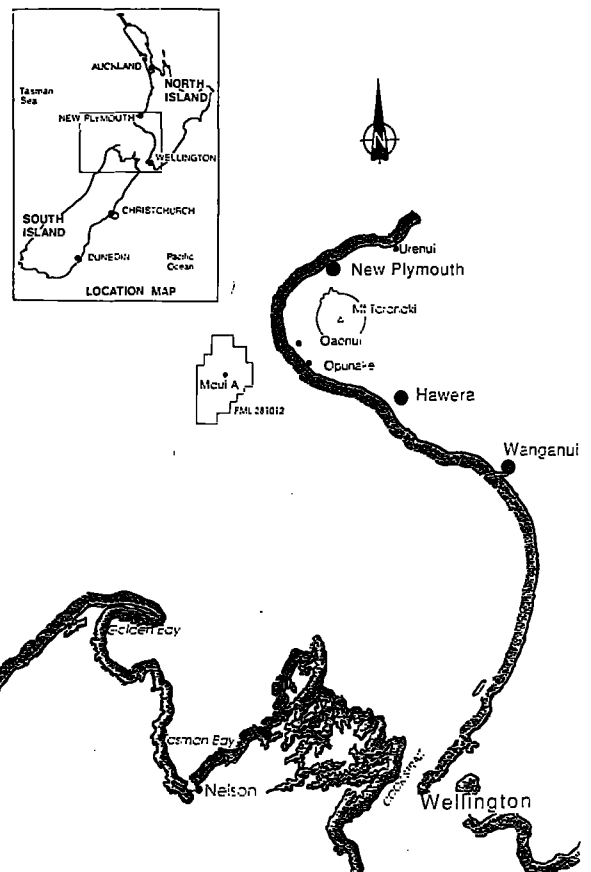


Fig. 1: Maui concession map and location plan.

the field for Maui Development Limited, a description of the project was given which included two options for pipeline routes to shore. One option would link the Maui B platform to Maui A. The second option was for separate pipelines from Maui B to the Maui Production Station at Oaonui via a new landfall some 12 km to the south. These options are shown in Fig. 2. At the time of release of an EIR, the choice of options had been resolved in favour of pipelines connecting Maui B to Maui A.

Additional facilities at the onshore Maui Production Station at Oaonui were also proposed. Fig. 3 gives a schematic representation of the main features of the Maui Stage II Development presented in the EIR.

## ENVIRONMENTAL ASSESSMENT

For most major industrial sectors in New Zealand, including the offshore petroleum industry, environmental assessment is now an integral part of the planning process. Formal procedures for environmental impact reporting and review have now been in place for over 15 years in New Zealand. The opportunity now exists to consolidate on lessons learnt over that period of time and to provide for improved environmental management in the future.

At an initial meeting with the Company on the Maui Stage II project it was agreed that in its EIR the Company would review Maui Stage I impacts and performance and assess new and incremental impacts which could occur as a result of Maui Stage II. Essentially the process proposed would include the Company doing a public audit of its own performance. It was also an opportunity to check on environmental predictions made 15 years previously.

## THE ENVIRONMENTAL ASSESSMENT PROCESS

### EIR preparation

Responsibility for preparation of an EIR lies with the proponent. The only involvement of the Commissioner at this stage was to convene a meeting of government agencies and to offer advice on process and the scope of environmental assessment.

**Liaison with agencies and the public** An important feature of the environmental assessment process is public and agency participation. During preparation of the EIR the Company met with national, regional and local agencies. The meeting with regional and local agencies was convened by the Taranaki United Council. Also, a public meeting was held at Oaonui, and the Company, at the invitation of the local Maori community, attended a hui on a local marae. At these meetings Shell BP and Todd Oil Services Limited gave presentations on its proposals for Maui Stage II, and views, attitudes and concerns were sought, both verbal and written. These comments assisted the Company in determining the issues it needed to address as part of the assessment process.

Meetings with all appropriate agencies invited are likely to be more beneficial than separate meetings with individual agencies. Potentially it allows for interaction between agencies and an enhanced understanding of the overall project, especially where agency responsibility and concerns may overlap.

The Company's commitment to engage in informal meetings with all interested agencies and with the public at this stage was preferable to an approach in which information is only made available through documentation.

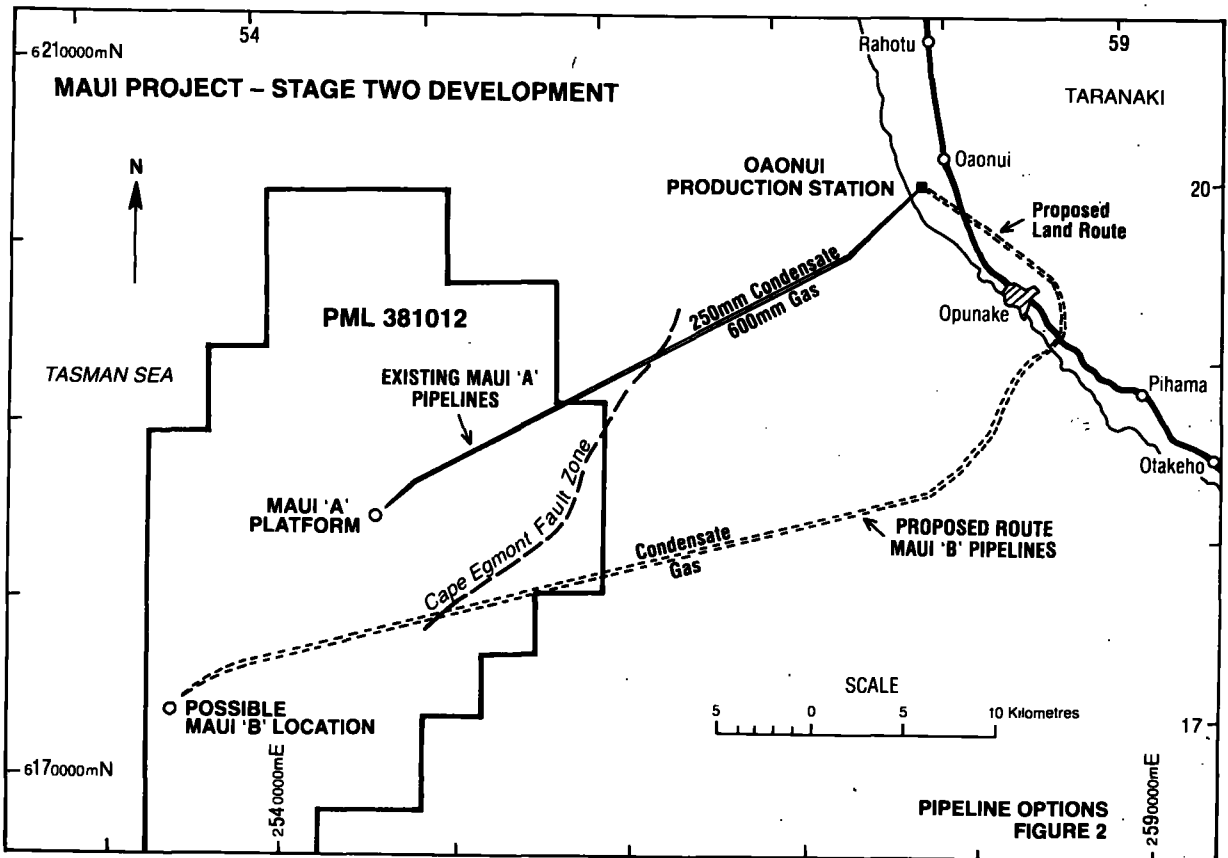


Fig. 2: Pipeline option.



## Timing of the EIR and audit

Release of a publicly available EIR for independent audit within a proponent's overall project planning can occur at several points (for example, conceptual, feasibility, or consent stages). For Maui Stage II the EIR and Audit presented planning at the conceptual stage of the project prior to completion of detailed design and planning for specific consents (for example, platform certification, dangerous goods consents, safety approvals, marine dumping permits, clean air consents, consents to drill wells). Few of the consent processes involved will have opportunity for objection or submission by third parties.

The EIR and Audit was an opportunity for public participation to influence planning. Recommendations were directed towards the Company and those agencies in a position to mitigate the environmental impacts of the ongoing Maui development.

## AUDIT FINDINGS

### Review of Maui Stage I impacts and performance

The Company's EIR identified several areas where things did not go entirely according to plan for the construction and operation of Maui Stage I. However, overall problems arising were manageable and the remedies applied have not resulted in notable environmental effects.

Agencies were invited to comment on the performance of Maui Stage I but for the most part did not do so. The opportunity to evaluate the environmental impact assessment process for Maui Stage I was not entirely met. It was hoped that all agencies who participated in the 1973 and 1974 EIRs would have looked back at their previous expectations and predictions and evaluated their own performance as well as the Company's. The EIR/Audit for Maui Stage II Development provided a rare opportunity to learn some lessons for future environmental assessments. Unfortunately this did not eventuate, or perhaps lessons learnt have not been publicly admitted.

One event occurred which should require further attention by the Company and appropriate agencies. The EIR referred to an *incident* in August 1987 at the Maui Production Station when a loss of instrument air pressure occurred. The correct operation of relief valves caused a slug of condensate to blow to the flare stack and a large flare resulted. This *incident* evidently was quite spectacular as it was the subject of considerable comment to the Audit Team. While no danger was involved there was uncertainty and concern in the local community as to how to respond, which highlighted a lack of emergency response co-ordination in the community.

### Maui Stage II operation

The Audit Team gave attention to all aspects of Maui Stage II operations which were raised in submissions or by team members. The major issues requiring evaluation were risk and potential marine effects. A number of additional issues with implications for operation at the Maui Production Station were also identified including LPG flaring, noise, traffic and waste discharge. Attention was also given to the need for planning, and consideration of procedures for platform decommissioning. In all, 19 recommendations were made to the Company and all but one have been accepted in principle.

The recommendation not accepted is under consideration by Maui Development Limited. It was considered in the Audit that there is inconsistency in the law relating to the provision of development levies with respect to offshore development. Effects on local and regional communities can occur as a result of offshore development without the opportunity for local and regional authorities to recover any additional cost by way of a development levy. It was recommended that the Company and the Taranaki United Council should negotiate the provision of a grant in lieu of a development levy for the construction and operation of Maui B and pipelines.

### Management and regulation by public authorities

The Audit was an opportunity to look at how effective statutory authorities are in carrying out their functions with respect to offshore petroleum operations.

**Risk and safety** On 6 June 1988, two weeks after the EIR was received by the Commissioner, the Piper Alpha disaster occurred in the North Sea. This tragedy highlighted the hazardous nature of offshore hydrocarbon production and the issue of safety. In the Audit close attention was given to the system of management and regulation by agencies and Lloyd's Register (a certifying authority) was consulted.

Overall it was concluded that the regulations in use are a sound basis for the regulatory authority to work with industry and achieve high standards of safety and promote good practices. However, the following areas were identified for attention by the Ministry of Energy:

- (a) The need to develop an approach to safety assessment to be used in assessing offshore installation safety during certification. This safety assessment should:
  - analyze the concept
  - identify hazards
  - analyze consequences
  - assess risk
  - review certification requirements
  - recommend design and operational improvements for safety.
- (b) The need to review and evaluate potential accidents and their consequences as part of the certification process, to include:
  - ship collision
  - helicopter crash
  - blow-out
  - riser failure
  - extreme weather
  - fire
  - explosion
  - earthquake
- (c) The need to amend Petroleum Regulations to require mandatory resurvey of a fixed offshore installation following alteration of a major process and structural items. The present regulations appear to be enabling only.

The Audit Team recognised that the above matters are subject to scrutiny by companies. The main thrust of recommendations in the Audit was to assist the regulatory agency to make its own independent evaluation of risk and include this as a component of the certification process.

**Environmental management** An area of concern identified in the Audit was the lack of a monitoring strategy, data base, and water quality guidelines necessary for effective

environmental management of offshore prospecting, mining and production activities on the New Zealand continental shelf. There appears to have been a lack of interest by New Zealand's public authorities in setting standards and ensuring compliance outside the 12 mile limit.

In this instance the Company has adopted international or Company standards for waste discharges and these are appropriate. They have undertaken extensive environmental baseline and monitoring work assisted by the University of Auckland. However, the intentions of the Company and usefulness of the work have not been assisted by the lack of direction from management agencies.

With only one offshore production platform in place in New Zealand, and limited exploration activity to date, there has not been any particular problem. However, with the possibility of further production offshore and increased exploration activity, a more coordinated rather than the present ad hoc approach to environmental management is desirable. In association with any increased activity, and to assist operators and regulators alike, there needs to be a national strategy developed for monitoring, data collection, and discharge performance. The new environmental protection agency currently proposed by Government is an appropriate body to develop such a strategy.

A further concern identified in the Audit was the need for consistency between laws affecting the environment within and outside the 12 nautical mile territorial limit. Consistency should apply not just to effects on the natural environment but also to social impacts. At present, development levy provisions of the Local Government Act 1974 do not extend beyond the 12 mile limit and effects on local and regional communities need to be recognised.

In all, 25 recommendations were made to public authorities. Ten of these have been accepted and 15 are under consideration.

### CONCLUSION

The environmental impact assessment process for Maui Stage II Development benefited from early consultation. Thorough consultation with the tangata whenua, the wider public and agencies was achieved and many concerns about the project were seen to be addressed at this stage.

The opportunity to evaluate the environmental assessment process for Maui Stage I was not entirely met. In general, agencies did not evaluate the performance of Maui Stage I or their own performance.

One lesson that should be pursued by the appropriate public authorities and all operators proposing new offshore operations is that environmental monitoring programmes need to be reviewed regularly to ensure the objectives are realistic and being met. The absence of any performance criteria to assist operators and regulators to achieve environmental objectives is also an omission in Government's environmental management for offshore hydrocarbon exploration and productions.

The environmental impact of the Maui Stage II Development was anticipated to be relatively uncontroversial and benign. However, the Piper Alpha disaster in the North Sea highlighted the risks associated with offshore oil and gas production. It was concluded after consultation with Lloyd's Register that risk analysis incorporated into the planning and design for the Maui B platform should be used during certification for assessing offshore installation safety.

### POSTSCRIPT

Since completing the Audit of the Maui Stage II Development EIR, the Company has altered its proposal. An unmanned satellite platform is now proposed which will link directly to the processing facilities on Maui A.

Because the earlier proposal was at a conceptual stage only, most of the recommendations made in the Audit remain appropriate. The Company proposes to release an Addendum to the EIR in October 1989 which will review the satellite option. This will provide an opportunity for the Office of the Parliamentary Commissioner for the Environment to appraise the changed proposal, update previous recommendations and monitor their implementation.

### REFERENCES

- FREER, W. W., 1973: White Paper on the Development of the Maui Gas Field, (Statement by Hon. W. W. Freer, Minister of Energy Resources, October 1973).
- MINISTRY FOR THE ENVIRONMENT, 1987: Revision Environmental Protection and Enhancement Procedures.